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ABSTRACT

The rise of the service sector is a major trend common to all western, industrialized countries. Employment in the service sector has increased in 1960-1986 in all 10 countries participating in the Organisation for Economic Cooperation and Development's Centre for Educational Research and Innovation Human Resources project (Japan, Belgium, France, Germany, Italy, Netherlands, Norway, Sweden, Yugoslavia, and the United States). Total employment has not increased in these countries. The correlation between strong overall employment growth and a high proportion of employment in the services is mixed. The health and the social services industries have led the employment increase in services in most countries. Women's share of total employment and their share of service sector employment are lowest in Belgium. In contrast, women outnumber men in services in France, Sweden, and the United States. Men predominate in industry in all countries. The age profiles of workers in industry and services differ significantly. Compared to industry workers, a larger percentage of service-sector workers are older in five of six countries. The percentage of younger workers is higher in services than in industry in three of six countries: Japan, the United States, and France. Some relationship is apparent between employment growth and age and gender concentrations, particularly for women. Educational attainment is higher in the service sector than in other industries. (Nine tables and 19 charts with employment data are appended.) (YLB)

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EMPLOYMENT PROFILE OF THE SERVICE SECTOR IN SELECTED COUNTRIES

by

Robert W. Bednarzik

U.S. Department of Labor
Bureau of International Labor Affairs

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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Project on Technological Change and Human Resource Development in the Service Sector

Organization for Economic Cooperation and Development, Center for Educational Research and Innovation

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Table of Contents

Title	Page
Purpose	2
Data Sources	3
Employment Trends	4
Employment by Economic Sector	5
Service Sector Employment	7
Service Sector Employment by Detailed Industry	9
Trade, Hotel and Repair (NACE 6)	10
Transport and Communication (NACE 7)	12
Finance, Insurance, Business Services and Real Estate (NACE 8)	13
Services (NACE 9)	14
Employment Profile	15
Gender and Age	15
Non-standard Forms of Work	17
Worker and Job Characteristics in the Service Sector	21
Trade, Hotel and Repair (NACE 6)	22
Transport and Communication (NACE 7)	23
Finance, Insurance, Business Services and Real Estate (NACE 8)	24
Services (NACE 9)	24
Educational Attainment	26
Firm Size	28
Summary and Conclusions	30
Policy Implications	34
Footnotes	36

Tables

	Title	Page
Table 1.	Civilian employment by country for selected years, 1960-86	37
Table 2.	Percent distribution of civilian employment by economic sector by country for selected years, 1960-86	38
Table 3.	The distribution of service-sector employment by major industry by country for selected years, 1960-86	41
Table 4a.	Employment by detailed service-sector industry by country, 1979 and 1986	45
Table 4b.	The distribution of employment by major service-sector industry and country in 1986, and the share of the change between 1979 and 1986	48
Table 5.	The distribution of employment by economic sector by age and gender by country, 1986	59
Table 6.	The distribution of employment by economic sector by non-standard forms of work by country, 1986	62
Table 7.	The distribution of employment by detailed industry by worker characteristics by country, 1986	66
Table 8.	Educational attainment of the employed by industry and country, 1987	76
Table 9.	The distribution of employment by firm size by industry and country	81
	Summary table of service-sector divisions and classes of NACE	84

Charts

	Title	Page
Chart 1.	Service-sector employment as a percent of total, 1960-86	39
Chart 2.	Percent distribution of employment by economic sector, 1986	40
Chart 3.	Employment share of service sector by major industry, 1986 (ISIC based)	44
Chart 4.	Employment share of service sector by major industry, 1986 (NACE based)	49
Chart 5.	Employment share in 1986, and share of change 1979 to 1986, trade, hotel and repair industry	50
Chart 6.	Percent distribution of 1979-1986 employment change, trade, hotel and repair industry	51
Chart 7.	Percent distribution of 1979-1986 employment increase, trade, hotel and repair industry	52
Chart 8.	Employment share in 1986, and share of change 1979 to 1986, transport and communication industry	53
Chart 9.	Percent distribution of 1979-1986 employment change, transport and communication industry	54
Chart 10.	Employment share in 1986, and employment change 1979 to 1986, finance, business services and real estate	55
Chart 11.	Percent distribution of 1979-1986 employment change, finance, business services and real estate industry	56
Chart 12.	Employment share in 1986, and employment change 1979 to 1986, services industry	57
Chart 13.	Percent distribution of 1979-1986 employment change, services industry	58
Chart 14.	Women's share of service-sector employment by industry, 1986	73
Chart 15.	Youth's share of service-sector employment by industry, 1986	74

	Title	Page
Chart 16.	Percent of service-sector employment by industry and non-standard forms of work, 1986	75
Chart 17.	Percent employed with less than secondary level of educational attainment by industry, 1987	79
Chart 18.	Percent employed with university level of educational attainment by industry, 1987	80
Chart 19.	Percent employed in large service-sector firms (500 or more employees)	83

Purpose

The rise of the service sector is a major trend which goes back to the pre-war years. The trend is common to all western, industrialized countries and much has been written on the long-term shift to services. However, little has been written about this shift from an international comparative basis, especially at a detailed industry level. The purpose of this paper is twofold: (1) to analyze and compare the shift to services across countries by detailed service sector industry, and (2) to present and examine a profile of the workers in these industries.

Since the first interest here is to examine secular changes, observations are made at roughly the same point in the business cycle. The specific time period analyzed is 1960 to 1986; other reference points for comparing changes are 1973 and/or 1979. All of these years are characterized by strong labor markets.

The analysis will proceed from the aggregate to the disaggregate by industry. Overall employment growth will be examined, followed by a look at the shift in employment among the major sectors -- agriculture, industry, and services. Next, the analysis will concentrate on the service sector, examining employment trends among the sector's major industries. The secular trend analysis will conclude with an examination of employment patterns in 28 service sector industries.

The second part of the paper will present a profile of workers in service sector industries and how they may differ across country. The profile will include the proportion of the industry's work force that is part-time, temporary, self-employed, female, and young or old. Size of firms or establishments in service sector industries versus firms in manufacturing industries will be compared, as well as the educational attainment of workers. Changes over time in the educational attainment of the employed will also be included. The last section of the paper will highlight the most important trends and findings uncovered in the analysis.

Data Sources

The study is limited to the ten counties participating in the Organization for Economic Cooperation and Development's Center for Educational Research and Innovation (OECD/CERI) Human Resources project -- Japan, Belgium, France, Germany, Italy, Netherlands, Norway, Sweden, Yugoslavia, and the United States. Several sources of data were utilized in gathering employment statistics for these countries. However, as you will note in the tables, data on every item were not necessarily available for every country. Unless otherwise noted, employment data in this paper come from population and labor force surveys.

The most extensive data came from a special OECD data file of the number of employed by detailed industry. These data come from European Economic Community (EEC) country's labor force surveys. Comparable data are available for a few non-EEC countries as well. The U.S. Department of Labor, Bureau of Labor Statistics (BLS) publishes international comparative labor force statistics for several OECD countries. They also maintain an excellent library of individual country's and international organization's published labor force statistics. Besides these sources, the national reports of the ten project countries yielded hard-to-acquire and useful data for the analysis presented here.

Employment Trends[1]

Total employment has not increased in all of the countries under study over the 1960-1986 period, while initial increases in other countries have stalled in the interim period. (See Table 1.) Employment levels in Germany, France, and Belgium were lower in 1986 than in 1979, the peak of the last business cycle, after showing some improvement between 1973 and 1979.

Employment was little changed in Italy and Sweden from 1979 to 1986, although Sweden has fared better over the longer run, as has the Netherlands. Employment growth has been the strongest and unabated over the 1960-1986 period in Japan, Yugoslavia, and the U.S. Employment increased by one-third in Japan, two-thirds in the U.S. and more than doubled in Yugoslavia over this time

in the U.S. and more than doubled in Yugoslavia over this time period. It should be noted that about 95 percent of employment in Yugoslavia is in the socialized sector, less than 5 percent is private. The data for Yugoslavia in this paper refer to the socialized sector.

An important question here is how much of the employment growth occurred in the service sector, and, in the countries with no overall employment increase, how did the service sector fare.

Employment by economic sector. Table 2 and Chart 1 show the distribution of employment by agriculture, industry, and services over the 1960-1986 period. Although the pace of change differed, all countries increased their share of the total number of workers employed in the service sector. Moreover, this increase share did not result because service sector employment remained the same over time while it declined in the other sectors; there was an absolute level of increase in employment in the service sector in every country under study.

The countries can be divided into three distinct groups based upon their share of employment in the three economic sectors. Those with over 60 percent of employment in services include (listed by country with the highest proportion first) U.S., Netherlands, Belgium, Norway, Sweden, and France. With the exception of France, the share of employment in industry (mainly

manufacturing) and agriculture in these six countries is low relative to the others, below 30 percent in industry and below 5 percent in agriculture. Norway is an exception in agriculture with over 7 percent of employment there. A second group with between 50 to 60 percent of employment in services, a third or more of employment in industry, and a still relatively high percentage in agriculture include Japan, Italy, and Germany, although agricultural employment is not that significant in Germany. Yugoslavia is only country where the industry share of employment is still greater than the service share. (See Chart 2.)

The correlation between strong overall employment growth and a high proportion of employment in services was mixed. The U.S. and Norway exhibited strong growth and both have a sizable percentage of employment in services. On the other hand, Belgium with a large share of service sector jobs showed an employment decrease. Employment in Italy and Germany, both with still relatively large industrial sectors, did not change by much. While in Japan, where the industry mix is similar, employment rose significantly. And, as noted in Yugoslavia where workers in industry outnumber those in services, employment growth has been quite high.

Service Sector Employment. Typically, employment in the service sector is subdivided into four industries --Trade, restaurants and hotels, Transport and communication, Finance, insurance, real estate and business services, and Community, social and personal services. These are the major industry classifications recommended by the International Labor Organization (ILO), and are termed the International Standard Industrial Classification (ISIC). Employment in the electricity, gas and water industry, which is classified in manufacturing in some countries and in services in others, represents only one percent or less of total employment and is very stable. (See Table 3.) Thus, it is not an important factor in an analysis of trends and shifts in employment and will not be discussed here.

Of the four major industries, the community, social and personal services industry accounted for the largest percentage of total employment in every country. (See Chart 3.) The distribution ranged from about 20 percent in Yugoslavia and Japan to around 35 percent in Sweden, Norway and Belgium in 1986. Moreover, in most countries, it has been an important source of employment growth over the 1960-1986 period. However, this was not the case in Yugoslavia where the percentage of employment in the community and other services industry has not changed much since 1973. The percentage also went up only slightly in the U.S.

Of the major service sector industries, the fastest growing in employment in every country, except Belgium and Germany, was finance, insurance, real estate and business services. Recall that overall employment was little changed in Belgium and Germany over this period. Apparently, unlike in other countries, the weaker employment growth in this industry could not sufficiently overcome losses in other industries.

The percentage of total employment in the trade, restaurant and hotel industry has not changed appreciatively in any of the study countries over the 1973-1986 period. Also, its' share of total employment ranges rather narrowly from 14 percent in Yugoslavia and Sweden to over 20 percent in Japan, Italy and the U.S. in 1986. A similar situation is found in the transport, storage and communication industry -- little change in employment in the long run and little difference in its' share of total employment across country. (See Table 3.)

Of course, the apparent unchanging or little changed employment in some industries above could be hiding important and significant employment changes at a more disaggregate level. Also, some of the important employment changes at the aggregate level could be even more dramatic when disaggregated. The next section examines employment changes by detailed service sector industry.

Service Sector Employment by Detailed Industry.

Table 4.a shows employment levels in 28 detailed service sector industries by NACE code for 1979 and 1986. NACE is the general industrial classification of economic activities within the European Communities. Employment data by industry based on NACE are published annually by Eurostat, the statistical office of the European Communities. Data in table 4.a for non-EEC countries were developed by the author by concording industry data based on other classifications to the NACE system.

Before examining employment by detailed industry, it is instructive to look at the changes in employment between 1979 and 1986 in the four major service sector industries.[2] That is, what was the outcome of the detailed industry changes. The previous section looked at the longer term. A straightforward way to determine whether meaningful change occurred is to compare an industry's share of an increase or decrease with its share of employment in the sector. If the share of the change is larger than the employment share, a significant change occurred. Chart 4 illustrates the distribution of employment in 1986 by major service sector industry and country. The 1979 to 1986 changes are illustrated in table 4.b. All of the figures in this table were derived from the data in table 4.a. Comparable detailed industry data were available for 8 countries. Although it was not listed in table 4, some detailed industry data were also available for Norway.

Although employment increased in nearly all of the service sector industries in all of the countries, including Norway, growth was the strongest in the finance and business services (NACE 8) and in the services (NACE 9) industries. That is, in both of these industries in every country, their share of employment growth over the 1979-1986 period was larger than their share of total service sector employment in 1986. The one exception was the U.S., the only country where employment growth was stronger in finance and business services than in community and other services. Japan was the only country where the largest proportion of the employment gain occurred in the trade, restaurant and hotel industry. (See Charts 5, 8, 10, and 12)

The weakest employment growth was in the transport and communication industry, where in Belgium it actually declined and in Germany remained unchanged from 1979 to 1986. Although employment growth was stronger in the trade, hotel and repair industry, even near or over 30 percent in Japan, Yugoslavia and the U.S., it was less than expected given its share of total employment.

Trade, Hotel and Repair (NACE 6). Of interest here, is the employment levels and patterns in the detailed industries that makeup the major industry totals. The largest NACE 6 industry was retail trade (NACE 64/65). It accounted for near or over 40

percent of trade industry employment in all countries in 1986, 50 percent in the U.S. Wholesale trade (NACE 61) accounted for a fourth or more of employment in the trade industry in every country except the U.S. and Yugoslavia, where it was lower. On the other hand, employment in the hotel industry (NACE 66), which includes eating and drinking places, represented a bigger employment share (about a fourth) in the U.S. and Yugoslavia, and in Japan too, than elsewhere.

Every country recorded disproportionate employment growth between 1979 and 1986 in the hotel industry. It was the only 2-digit trade, hotel and repair industry in Belgium to experience an employment increase from 1979 to 1986. Moreover, the employment gains in the hotel industry more than offset the losses in retail in Germany, France, and Sweden. Employment in the retail industry grew in Yugoslavia, Japan and the U.S. Three countries, France, Netherlands and Sweden posted disproportionate employment losses from 1979 to 1986 in the repair of consumer goods industry (NACE 67), whereas in the U.S. the industry increased disproportionately. Along with retail, employment in wholesale trade declined in Germany. In contrast, the wholesale trade industry increased disproportionately in France, Sweden and Japan. (See Charts 6 and 7.)

Transport and Communication (NACE 7). Employment in the communication industry (NACE 79) in 1986 accounted for 30 percent or more of NACE 7 employment except in Japan and Yugoslavia, where it accounted for about half this figure. The balance of the employment total was distributed among the various types of transportation industries, with most of the European countries having a relatively large work force in the railway industry (NACE 71), while in the U.S. the airline industry (NACE 75) was dominant. All countries have a relatively large percentage of workers in public transportation (NACE 72).

The employment changes in this industry are a good example of why it is important to analyze patterns at a detailed industry level. The small changes in employment at the aggregate level mask significant counteracting changes at the detailed level. Disproportionate employment losses were reported in the railway industry in Germany and the U.S., and in both the railway and water transport (NACE 74) industries in France and Japan, and in these two industries plus the airline industry in Belgium. However, in many cases, these losses were offset by gains in employment in other land transport (NACE 72) which includes urban and regional public transportation systems and the trucking industry. Four countries -- France, U.S., Netherlands, and Yugoslavia -- also posted disproportionate employment increases in the airline industry between 1979 and 1986. The number of employed in the communication industry rose disproportionately in

all countries, except in Japan and Belgium where it declined. (See Chart 9.)

Finance, Insurance, Business Services and Real Estate (NACE 8). The business services and real estate industry (NACE 83) accounted for nearly a half or more of total employment in this industry in nearly all of the countries in 1986, two-thirds of the total in the Netherlands and Sweden. Business services probably typifies more than any other industry the changing relationship that is taking place in many countries between manufacturing and service industries. Unfortunately, data for the business services industry alone were not generally available. Nevertheless, we can assume that the employment changes in NACE 83 are primarily due to changes in the business services industry. A look at employment in the business services and real estate industries separately in the U.S. supports this assumption.

In the U.S., business services accounted for 77 percent and real estate 23 percent of total employment in the business services and real estate industry in 1986. Moreover, business services accounted for 87 percent of the employment increase in NACE 83 between 1979 and 1986.

Among the remaining industries, financial services (NACE 81) is the largest, ranging from around 20 percent of NACE 8

employment in the Netherlands and Sweden to near or over 35 percent in Belgium, Germany, and Yugoslavia.

As expected, the strong employment growth that was visible at the major industry level over the 1979-1986 period was due in large part to the tremendous employment growth in the business services and real estate industry (NACE 83). Just about every country, including Norway, recorded disproportionate employment increases in NACE 83, which accounted for about two-thirds or more of the employment growth in this industry in every country except Yugoslavia, where it accounted for over half the increase. The only other detailed industries to record disproportionate employment growth over the 1979-1986 period were financial services in Yugoslavia and the renting and leasing industry (NACE 84/85) in France. (See Table 4.a. and Chart 11.)

Services (NACE 9). There was not really a dominant industry from an employment standpoint in this industry, with government (NACE 91), education (NACE 93), and health services (NACE 95) industries each making up 20 or more percent of services employment in a number of countries. In Sweden in services, over 25 percent of employment is in social services (NACE 96). Most of these jobs are probably in the public sector and would help explain the relatively low proportion recorded as working in public administration.

Except in the U.S. and Japan, the vast majority of employment growth in the service sector from 1979 to 1986 occurred in the services industry (NACE 9). Disproportionate employment gains were recorded in both health and social services in every country, in recreational services in five countries, in sanitary services (which includes services to buildings) in four countries, and in educational services in three countries. Employment in the following industries accounted for the largest proportion of the total increase in individual countries -- health and social services in Japan, Germany, Sweden, U.S., and Yugoslavia, education services in Belgium, and education and social services in France and the Netherlands. (See Chart 13.) The only disproportionate decline occurred in domestic services employment.

Employment Profile

The first part of the paper showed that the composition of service sector industries differs by country, although there were also a lot of similarities. Now, the worker characteristic composition of service sector industries will be examined. But first, a more aggregate or economy wide view will be explored.

Gender and Age. Table 5 presents the share of total employment by economic sector and country by gender and age in 1986. In the six countries for which data were available (Belgium, Germany, France, Sweden, Japan, and the U.S.), the

percentage of women employed ranged from a low of 36 percent in Belgium to a high of 48 percent in Sweden in 1986. Not surprisingly, women were most likely to be employed in the service sector. They outnumbered men in the service sector in Sweden, U.S. and France.

The employed of two countries, Germany and the U.S., could be classified as youthful (under 25 years of age), with about 19 percent of their employed in this group. Somewhat surprisingly, in neither country was this youthfulness as prevalent in services as it was in industry in Germany and in agriculture in the U.S. The large percentage of German youth in industry is probably a reflection of their apprenticeship program. The youthfulness of the U.S. agriculture industry is in sharp contrast to the situation in Europe and Japan, where the vast majority of workers in 1986 in the agriculture industry were older (55 years and over). Since most of the new jobs are in services, one would expect that youth would represent a larger proportion of employment in the service sector than in industry. This was the case in half of the countries -- France, Japan and the U.S. This indicates that there are still entry level jobs available in manufacturing, a fact that is frequently overlooked in discussions of job growth.

When comparing the age distribution of workers in the service sector to those in industry, a few very interesting

patterns emerge. In all six countries listed in table 5, older workers in services outnumber those in industry. Moreover, the percentage of service sector workers that were older was greater than the percentage of industry workers that were older in 1986 in 5 of the 6 countries. Sweden was the lone exception. This was generally the case for both men and women. This implies that either older workers are successfully shifting from industry to services or older factory workers are more likely to leave the labor force than older service workers. If the latter is the case, the problem will be compounded because a larger proportion of industry than service workers are ages of 25 to 54 years. The question is: As factory workers age, can they move into service sector jobs if necessary?

Non-standard Forms of Work. The non-standard forms of work examined here include part time, temporary, and self employment. Temporary workers are those employed for a specific period of a month or more but not more than a year, plus those employed on a daily basis or for a specific period of less than a month. The self employed include those working for themselves in own farm, professional practice, or business, both incorporated and unincorporated, and those working without pay in a family business or farm.

The definition and measurement of part-time work is more varied from country to country. In the EEC countries (in this

paper that includes Belgium, Germany, and France), part-time workers are in principle those who declared themselves as such at the time of survey. The figures for part-time work reported for these countries in table 6 are part-time workers who are neither self employed nor temporary workers. In Japan, part-time workers are those who actually worked less than 35 hours during the survey week. In Sweden and the U.S., part-time workers are those who usually work less than 35 hours during the survey week.[3]

It is useful to examine the percentage of each country's work force that is non-standard --that is, the sum of part time, self employed or temporary. This total was only available for three countries -- Belgium, Germany and France. In a few other countries, a rough figure of the magnitude of non-standard forms of work can be made by combining part-time employment and self employment. However, this total excludes one group and double accounts another. For example, for Sweden, Japan and U.S. we do not know the percentage of full-time workers that are temporary. This exclusion could be significant as a 1986 OECD study showed that, on average, two-thirds of temporary workers work full time.[4] Somewhat offsetting this undercount is an overcount by including part-time, self-employed workers twice, counting them once for being part time and counting them again for being self employed. Since unpaid family workers are included in the self-employment total and likely work part time, the number of self employed that are part time could be higher than expected,

especially in agriculture.

Generally, a little over 30 percent of employment was non-standard in the six countries noted above. The importance of the three components of non-standard forms of work to the total varies by country. Part-time work was more prevalent in Sweden, Japan, and the U.S., while self employment made up a larger share of employment in the EEC countries. In Belgium, this was partly a reflection of the inclusion of unpaid family work. Also, in the agriculture industry in the EEC countries, the vast majority were self employed, more so than in the U.S. or Sweden. Although it is not reported in table 6, self employment in Germany and France along with the U.S. has been rising, especially in the last few years in Europe. Temporary work, data on which were only available for four countries, was less than 10 percent of total employment. This appears to be consistent with a recent OECD study of this issue.[5]

A larger percentage of workers in services than in industry work in non-standard forms, especially part time. (See Table 6.) For example, in four of the countries, the percentage of services employment that was part time in 1986 was three times the percentage of industry employment that was part time. A few countries reported a much higher percentage of self employment in services than in industry as well. In contrast, Japan had a large concentration of non-standard work in industry. Thirty

percent or more of industry employment was non-standard, nearly twice the percentage recorded in other countries.

The percentage of women was larger than the percentage of men in non-standard forms of work in 1986 in every country. This was also the case for each type of non-standard work analyzed here, except among the self employed in Belgium and Japan. This pattern generally holds when comparing women in services with those in industry. That is, with the exception of Japan, women workers in services are more likely than women workers in industry to work non-standard forms. In Japan, a larger percentage of women in industry work part time and/or temporary than women in services. This gives the impression that in most countries women are likely to be working in non-standard forms of work because that is the nature of the jobs that are available. However, in Japan, this is unclear. The larger percentage of women in non-standard forms of work in industry than in services indicates that either factory workers are in short supply and employers are making work schedules more flexible to attract more women, or women are being shutout of more traditional forms of work.

Of interest here, is how the composition of individual service sector industries compare across countries. Table 7 sub-divides the four major service sector industries into a total of 28 industries and illustrates the percentages of their work

forces that work non-standard forms and the percentages that are youth and women.

Worker and Job Characteristics in the Service Sector

There appears to be a direct relationship between the likelihood of working non-standard forms and age and gender. The industries with the largest percentage of women workers (Chart 14) and young workers (Chart 15) were also the most likely industries to record a significant proportion of non-standard forms of work (Chart 16).

For example, among the four major service industries, the trade, hotel and repair industry had the largest percentage (40 percent) of workers working non-standard forms and the largest concentration of youth in all countries in 1986 except Sweden. Also, nearly 30 percent or more of workers in other services (NACE 9), where women are concentrated, in every country worked non-standard forms. Women also made up a sizable percentage of employment in the trade industry. Part-timers and temporaries were prevalent in both of these industries, especially part-timers in Sweden and the U.S. The trade, hotel and repair industry had the largest concentration of self employment in every country except the U.S., where it was concentrated in the finance, business services and real estate industry.

The transport and communication industry, which had the smallest concentration of non-standard work, also had the lowest percentage of young workers and of women workers.

Trade, Hotel and Repair (NACE 6). In several of the detailed industries, over half of the work force worked non-standard forms: In hotels and eating and drinking places in Belgium, France, Germany and the U.S., in the repair industry in France and the U.S., and in retail in Belgium. This is due mainly to the prevalence of self employment rather than part-time employment in these industries. Employment in the retail industry in the U.S. and to a lesser extent in Sweden was characterized by a large share of part-timers.

Women tended to be concentrated in the hotel and eating and drinking place and in the retail industries. Their employment share in the repair industry was quite low. The distribution of youth was not as concentrated, although there was more of a tendency for them to work in the hotel and eating and drinking place industry and in the retail industry than elsewhere, especially in Sweden and in the U.S. In contrast in Germany, youth accounted for 40 percent of the repair industry, perhaps again related to the strong German apprenticeship program. Interestingly, nearly one-fifth of employment in the repair industry in Germany was temporary.

Transport and Communication (NACE 7). Generally, outside of a few detailed industries, non-standard forms of work were not very prevalent in this industry. In the four countries for which data were available, Belgium, Germany, France and the U.S., non-standard forms of work were most visible in other land transport, which includes the trucking industry, and in the inland water transport industries. This is the result of extensive self employment in these industries, where apparently owning your own truck or boat is not that uncommon. In the U.S., the amount of part-time workers in these two industries was significant.

Other industries with a notable percentage of non-standard forms of work were warehousing and travel agents (NACE 77) in Belgium and Germany and support services (NACE 76) in the U.S., where it includes travel agents and a large proportion of women. It appears likely that the travel agent portion of the industry is responsible for this result. This is intuitive since the industry readily lends itself to both individual ownership and/or part-time work. In Germany, a fifth of employment in the communication industry was non-standard, either part time or temporary. This industry had the highest percentage of young workers and of women workers among NACE 7 industries in Germany. The communication industry in France, Sweden and the U.S. also had a large proportion of women, as did the airline industry.

Finance, Insurance, Business Services and Real Estate (NACE 8). Non-standard forms of work were more prevalent in the business services and real estate and in the renting and leasing industries than in the banking and insurance industries in the four countries with available data. Surprisingly, the age and gender and non-standard forms of work pattern did not hold here. That is, the industries like business services characterized by non-standard work were not characterized by an inordinate percentage of youth or women. Over half the work forces in the banking and insurance industries in Sweden and the U.S., and in banking in Germany, and in insurance in France were women in 1986.

Self employment was marginally higher than part-time employment in NACE 8 in Germany, France and the U.S., and substantially higher in Belgium. In the renting and leasing industry in Belgium, temporary work also made a substantive contribution to the non-standard work total.

Services (NACE 9). Except in government, non-standard forms of work were pervasive in this industry -- over 40 percent of employment in every country in the sanitary industry, which includes services to buildings, near or over 50 percent of employment in every country in the recreation industry, and near or over 60 percent of every country in the personal services industry. Also, 40 percent or more of employment in the

education and health industries in Germany and in the health industry in Belgium were on non-standard forms of work. In the sanitary and in the recreation industries, part-time work was dominant, whereas in the personal services industry, self employment was dominant. In contrast in the U.S. personal services industry, the part-time worker share of total employment was slightly higher than the self-employed share.

Temporary workers made a significant contribution to the non-standard total in a few service industries, most notable the recreation industry in Belgium, Germany and France and the education industry in Belgium and Germany. Moreover, NACE 9 industries overall in Germany were heavy users of temporary workers. This was also the case to a lesser extent in Belgium.

Outside of the two very small industries, international organizations and R&D, the number of women employed in detailed services industries was substantial and pervasive. The proportion ranged from about 30 percent in government in Belgium to 85 percent in social services in Sweden. (See Table 7.) Women represented near or over 50 percent of employment in most NACE 9 industries in every country reported in table 7 in 1986. On the other hand, the number of youth tended to be more concentrated by industry and country. They were most prevalent in the personal services industry in most countries, and in the recreation industry in France and the U.S., and in the health industry in

Germany, and in the sanitary industry in Sweden.

Educational Attainment

Table 8 reports education levels by industry for five countries. Most of the data come form a forthcoming OECD report.[6] The two most striking results from table 8 are that educational attainment is higher in service-sector than in other industries, and the educational level is increasing in all industries in all countries. Less in evidence was the improvement in the educational level in the manufacturing industry relative to service-sector industries generally.

The first part of the table shows the proportion of the employed having less than a secondary level of educational attainment. The ranking from worst (high proportion) to best (low proportion) by industry was agriculture, goods-producing and service-producing in 1987. This was fairly consistent across countries, although in Yugoslavia and Sweden there was a large percentage of service-sector workers with less than a secondary level of education. (See Chart 17.) However, all major industries in all of the countries reported declines in the relative proportion of the employed with less than a secondary level of education over the time period indicated in part II of table 8. This decline was slightly greater in the manufacturing industry than in service-sector industries except in the U.S.

The proportion of the employed with university/college level educational attainment in 1987 by industry yielded a similar conclusion. That is, the ranking from worst (low proportion) to best (high proportion) by industry was agriculture, goods-producing and service-producing in 1987 and nearly all industries were experienced increases in educational attainment levels. Here too, the percentage of workers with a university education in the manufacturing industry increased to a slightly greater degree than did the percentage in service-sector industries. Also, the proportion employment with a university education was relatively low in a few service-sector industries, especially transport and communication in Germany and in Yugoslavia. (See Chart 18.)

There were also differences among service-sector industries. The proportion of the employed having less than a secondary level of educational attainment in 1987 was highest in the trade and restaurant industry in nearly every country, followed by the transport and communication industry. Moreover, the proportion was not declining much faster in these industries than in the finance and business services and the services industries.

An examination of the proportion of the employed with an university level of educational attainment tells a slightly different story. Although higher educated workers were much more likely to be found in finance and business services and in

services industries than in trade and restaurants or transport and communication industries, the increase in the latter two industries in the proportion with an university education was higher in every country except Japan. In Germany, this proportion in services actually declined. Taking together the trends in proportion of the employed with less than a secondary education and with an university degree by industry, the conclusion is that the education gap among service-sector industries is narrowing.

Firm Size

The data in table 9 confirm the commonly held belief that firms in the service-sector are generally smaller in terms of the number employed than firms in manufacturing. The lone exception among the six countries listed in the table was Yugoslavia, where a smaller percentage of employment in the service-sector than in other sectors was in firms with 15 or fewer employees. In the other countries, the percentage of employment in small firms in service-sector industries was usually twice as much as the percentage in small firms in other sectors.

Of course, when examining firm size in only the service sector, there were differences among countries and among individual industries. For example, the percentage of service-sector employment in small (fewer than 10) than in large (500 or more) firms was greater in France, Germany, Sweden and

Yugoslavia. In France over 30 percent of the employed in the service sector worked in firms with under 10 employees while only 8 percent worked in firms with 500 or more employees. In Japan and the U.S., large service-sector firms accounted for a larger percentage of employment than smaller firms. (See Chart 19.)

Among individual industries, the transport and communication industry tended to be large in Japan, Germany, Yugoslavia and the U.S., but less so in Sweden and Germany. The finance, insurance and real estate industry also tended toward larger firms. Industries more likely to be characterized by smaller firms were hotels and restaurants, particularly in Japan and Germany. The distribution of employment by firm size in retail showed no common threads or patterns among countries. This was also the case for services industry. More detailed industry breakdowns might reveal interesting differences. For example, in the U.S. small firms in 1986 accounted for 20 percent or more of employment in repair services, personal services, real estate, auto sales and repair, and wholesale trade. In contrast, very large firms accounted for 20 percent of employment in banking, insurance, and hotels.

Summary and Conclusions

Although employment in the service sector increased in all of the countries under study over the 1960 to 1986 period, or between intervening peak business cycle years, it was not enough in some countries to overcome losses in other industries. There was a weak relationship between industry mix and employment trends. The U.S. and Norway exhibited strong employment growth and both have a very large service sector, while employment was little changed in two countries, Germany and Italy, with still relatively sizable industrial sectors. On the other hand, employment increased in Japan and Yugoslavia, each having a large share of employment in industry, and declined in Belgium where the proportion of employment in the service sector was high.

In Belgium (and Germany too), the share of employment in the fast-growing business services and real estate industry was lower than in other countries. Also, among the major service-sector industries, the percentage increase between 1973 and 1986 in the business services and real estate industry was as low or lower than the increase in services in Belgium and Germany than in other countries. It's possible that because the restructuring of manufacturing and the growth of business services did not start as soon in Belgium or Germany as in other countries, employment growth in these two countries lagged growth in other countries. Belgium was also the only country to experience an employment decline in both the transportation and communications industries.

In the more current period (1979-86), the increase in employment in the services industry exceeded the increase in the finance and business services industry in every country except the U.S., where the reverse was the case. The health and the social services industries led the employment increase in services in most countries. Employment increase in the educational services industry was strong in Belgium, France and the Netherlands. In the trade and hotel industry, employment increases in the hotel and eating and drinking place was strong everywhere, while employment in retail trade declined in France, Germany and Sweden from 1979-1986. In the transport and communications industry, little change at the aggregate level masked important changes at the detailed industry level. Employment losses in railway and water transport in some countries were offset by gains in other land transport which includes regional and urban public transportation systems and other trucking industry.

Women's share of total employment and their share of service-sector employment was lowest in Belgium. In contrast, women outnumbered men in services in France, Sweden and the U.S. Men were predominate in industry in all countries. Women tended to be concentrated in the following service-sector industries in most countries: hotels and eating and drinking places, retail, banking and insurance, and other services.

The age profiles of workers in industry and services also differed significantly. A larger percentage of service-sector than industry workers were older in 5 of 6 countries, perhaps because many of them were forced out of industry. Since prime-aged workers are more concentrated in industry than in services, an important concern is their ability to move to service-sector jobs if necessary.

The percentage of younger workers was higher in services than in industry in only 3 of 6 countries, Japan, U.S. and France, with industry apprenticeships and seasonal agricultural work likely drawing them away form service sector jobs. In services, young workers were most likely found in the following industries: hotels and eating and drinking places and in recreation and personal services in most countries, retail in the U.S. and Japan, and in repair services in Europe.

There seem to be some relationship between employment growth and age and gender concentrations, particularly for women. The 2-digit NACE industries that recorded the strongest employment growth, hotels and eating and drinking places, health and social services, and business services and real estate, all had heavy concentrations of women. Young workers were also concentrated in the hotel and restaurant industry.

Also, the industries with largest percentage of women workers and young workers were also the most likely industries to record a significant proportion of non-standard forms of work. Generally, self employment was more prevalent in EEC countries, while part-time work was more prevalent in non-EEC countries. The following industries recorded significant self employment: hotels and eating places in the EEC countries, and business services and real estate, repair, and personal services in most countries. Part-time workers and temporary workers were located primarily in the trade, hotel and repair and in the services industries. The sanitary industry, which includes services to buildings, had a sizable amount of part-time work in most countries.

Educational attainment gaps appear to be narrowing. The educational level in service-sector industries is higher than in other industries, and within services it is higher in the finance and business service and other services industries than elsewhere. However, the gap is narrowing in both instances.

Although service-sector firms are smaller in terms of number employed than industrial firms, large service-sector firms in some countries account for a sizable proportion of total employment. For example, in Japan and in the U.S., large service-sector firms accounted for a larger percentage of employment than small service-sector firms.

Policy Implications

Employment in the service sector is becoming a larger part of the total in all countries, and it is not necessarily concentrated in small firms. Some countries are further along than others in this shift in employment base, but all countries must face the issues that such a shift entails. Among these appears to be the key roll played by the business services industry. The figures show the importance of this industry in employment growth, but they do not show its' importance in allowing industries to restructure and become more flexible and competitive. Although the continued development of the industry should be encouraged, the fate of its' work force needs to be studied. This would include training and retraining, wages and benefits, job tenure, and work scheduling and organization.

Women will continue to be an important source of labor for service sector jobs. They were most prominent in countries with large service sectors, except in Belgium. Also, expanded use of non-standard forms of work, in conjunction with other benefits like child care, will be necessary to continue to attract women into the labor force.

Non-standard forms of work are also important to younger workers, especially students. Also, apprenticeships may be a way of qualifying more younger workers for service-sector jobs.

Traditionally found in manufacturing, perhaps more apprenticeships could be offered in industries that service products like repair services. Like women, young workers are a important source of labor to a growing service-based labor market. They were concentrated in the hotel and restaurant industry, an employment growth industry in all countries albeit not a high-wage one. Interestingly, in Europe self employment in the hotel and restaurant industry was significant.

The concentration of prime-age workers in industry, the declining sector, presents an interesting policy dilemma. Can these workers be retrained for service-sector jobs or can governments continue to afford forcing them out of the work force at an early age? I think the answers are self evident. Already they are many more older workers in services than in industry and more will be needed. Also, government spending on social programs has come under closer scrutiny in all countries; they are looking where to cut, not where to spend.

High educational attainment is most important in industries where employment is growing the fastest. Thus, those with a higher education level have a greater probability of becoming employed. Moreover, the educational level is increasing across most all industries, which makes having at least a secondary education a necessary condition for getting a job.

Footnotes

1. A few points should be kept in mind when reading this paper. The size of the labor market varies considerably by country, from around 2 million employed in Norway to over 50 million in Japan and over 100 million in the U.S. Also, each country's approach to labor market policy differs, especially among Europe, Japan and the U.S. And, of course, there are important cultural differences as well.

2. Given that two different industry classification systems were used, there are a few inconsistencies in employment changes between 1979 and 1986 for individual countries. That is, the changes derived from table 3 may not agree with those derived from table 4. In most cases, the differences are negligible. However, in the Netherlands, the employment change in the trade and hotel industry over the 1979-1986 period was in opposite directions when comparing the results based on ISIC with NACE. Part of the difference is explained by a change in the population universe between 1979 and 1986. Data for 1979 are for 14 years of age and over, while 1986 data are for 15 years and over. This is likely to affect the employment count in the trade, hotel and restaurant industry, where a lot of teenagers work.

3. For further information, please see OECD Employment Outlook 1985, pp. 130-31, and Employment Outlook 1989, Chapter 5, Table 5.6.

4. Employment Outlook 1987, Table 1.10.

5. Employment Outlook 1987, Table 1.8.

6. Employment Outlook, 1989, Table 5.17.

TABLE 1

Civilian employment by country for selected years 1960-86 (numbers in thousands)

Country	1960	1973	1979	1986
Japan	43,370	51,900	54,040	57,740
Belgium[a]	—	3,738	3,744	3,644
France	18,595	20,863	21,305	20,962
Germany	25,954	24,411	25,516	25,267
Italy	20,064	18,914	20,097	20,606
Netherlands	4,162	4,670	4,821	5,135
Norway[a]	—	1,654	1,872	2,086
Sweden	3,513	3,861	4,162	4,314
Yugoslavia[b]	2,903	4,213	5,506	6,566
United States	65,778	85,064	98,824	109,597

Source: U.S. Department of Labor, Bureau of Labor Statistics' Comparative Labor Force Statistics for Ten Countries, 1959-1987, September 1988.

[a] Data are from Organization for Economic Cooperation and Development, Department of Economics and Statistics, Labor Force Statistics, 1966-1986, Paris, 1988.

[b] Data are from International Labour Office, Year Book of Labour Statistics, Geneva, 1966, 1978, 1983 and 1987; Socialized sector only.

TABLE 2

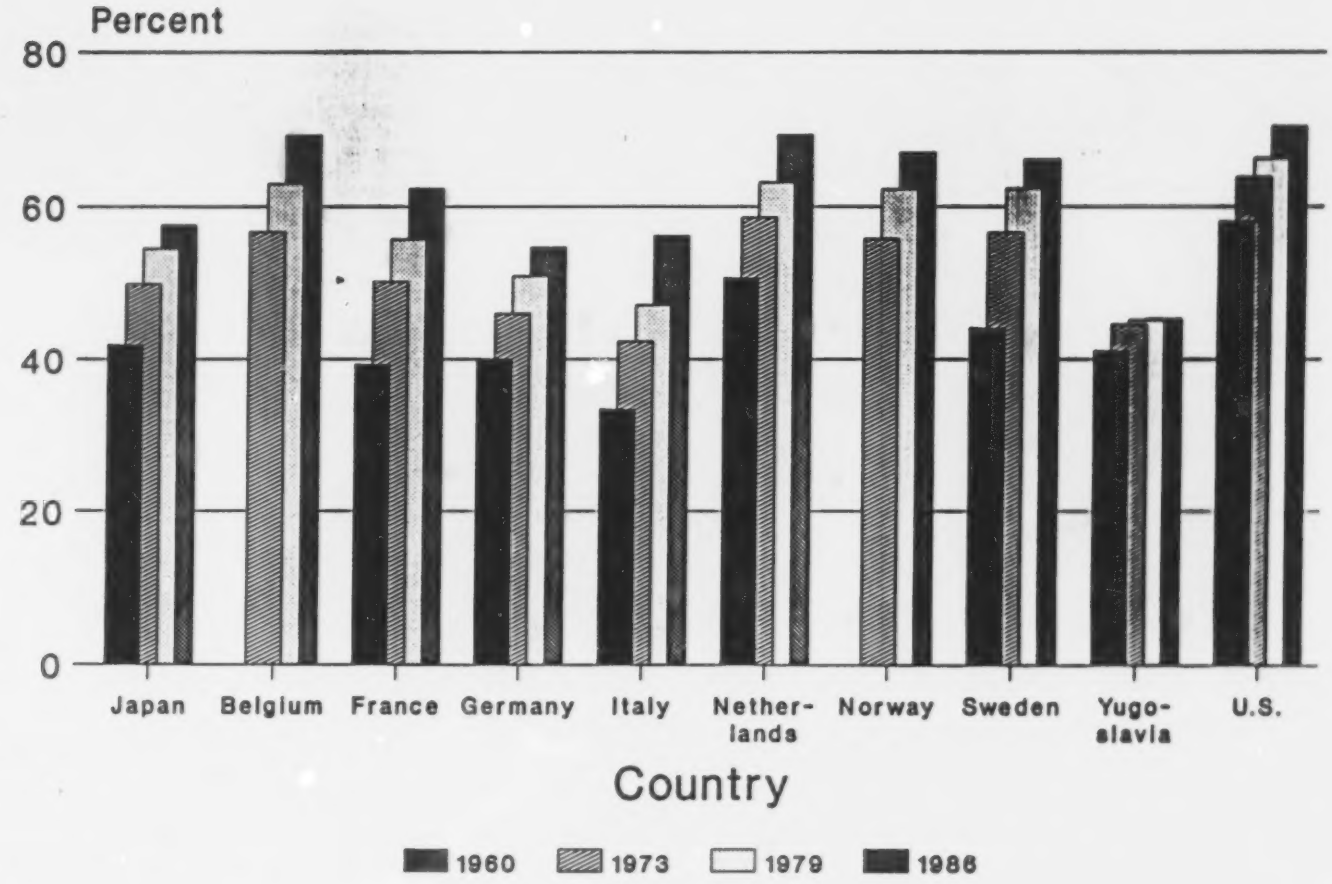
Percent distribution of civilian employment by economic sector by country for selected years, 1960-86

Economic Sector and Country	1960	1973	1979	1986
Agriculture(1)				
Japan	29.5	13.1	10.8	8.1
Belgium[a]	—	3.9	3.2	2.8
France	23.2	11.2	9.0	7.3
Germany	14.0	7.3	5.8	5.3
Italy	32.5	18.2	14.9	10.7
Netherlands	9.8	5.8	5.3	4.8
Norway[a]	—	11.4	8.6	7.2
Sweden	15.5	7.1	5.8	4.7
Yugoslavia[b]	12.1	5.8	5.0	5.1
United States	8.5	4.2	3.6	3.1
Industry(2)				
Japan	28.5	37.0	34.7	34.2
Belgium[a]	—	39.5	34.0	28.1
France	37.5	38.7	35.4	30.3
Germany	45.9	46.8	43.3	40.0
Italy	34.2	39.5	38.0	33.1
Netherlands	39.5	35.6	31.6	25.9
Norway[a]	—	32.8	29.3	25.7
Sweden	40.4	36.3	31.9	29.1
Yugoslavia	46.8	49.5	49.9	49.5
United States	33.4	32.0	30.2	26.6
Services(3)				
Japan	41.9	49.9	54.5	57.6
Belgium[a]	—	56.7	62.9	69.2
France	39.3	50.0	55.7	62.3
Germany	40.1	46.0	50.9	54.7
Italy	33.4	42.3	47.1	56.2
Netherlands	50.7	58.6	63.1	69.3
Norway[a]	—	55.8	62.2	67.0
Sweden	44.1	56.6	62.3	66.1
Yugoslavia[b]	41.1	44.6	45.2	45.3
United States	58.1	63.8	66.3	70.4

(1) Agriculture, forestry, hunting, and fishing.
(2) Mining, construction, and manufacturing.
(3) Transportation, communication, public utilities, trade, finance, public administration, private household services, and miscellaneous services.

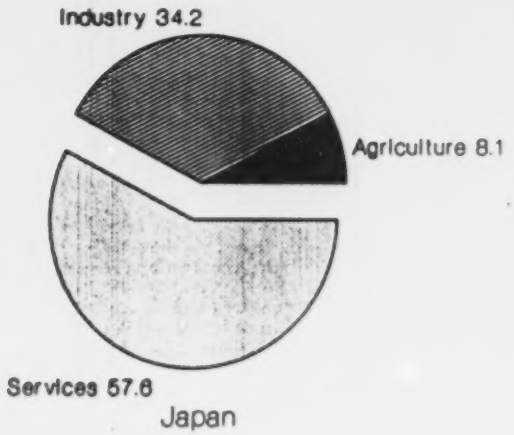
Source: Same as Table 1. The electricity, gas and water industries are included in the service sector.

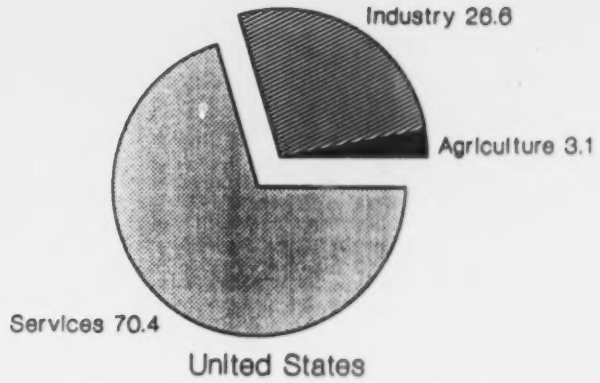
CHART 1. Service-sector employment as a percent of total, 1960-86

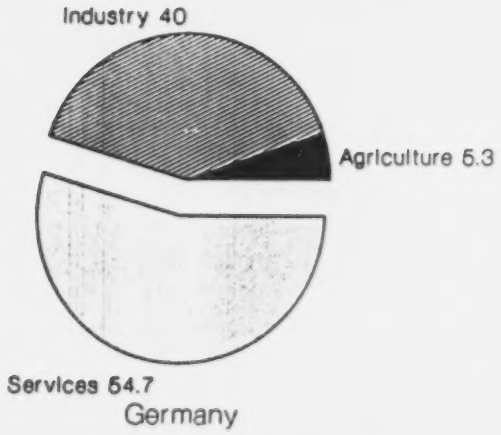


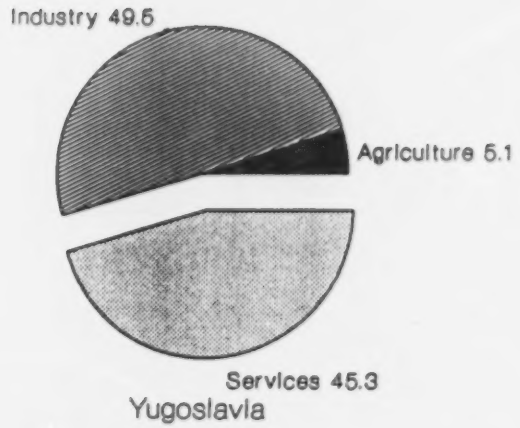
Source: Table 2.

CHART 2. Percent distribution of employment by economic sector, 1986









Source: Table 2.

TABLE 3

The distribution of service-sector employment by major industry by country for selected years 1960-86
(Numbers in thousands)

Country and Year	Total Employment (Number)	Total Service-Sector Employment	Electricity Gas Water	Trade Restaurants Hotels	Transport Storage Communication	Finance Insurance Real Estate Bus. Services	Community Social Personal Services	Other
Belgium[a,b]				[c]				
1960	3,384.7	46.8	0.9	14.7	7.1	—	24.1[d]	—
1973	3,774.5	55.6	0.9	18.5	7.0	5.6	23.6	—
1979	3,749.2	64.3	0.9	18.7	7.3	6.6	30.8	—
1986	3,697.9	69.5	0.9	19.3	7.0	8.2	34.1	—
France[a]								
1960	—	—	—	—	—	—	—	—
1973	20,939	49.2	0.8	16.5	5.4	5.3	21.2	—
1979	21,118	57.6	0.9	16.4	6.4	7.0	26.9	—
1986[b]	21,193	62.0	1.0	16.4	6.5	8.0	30.1	—
Germany[a]								
1960	25,954	37.8	0.8	13.7	5.8	—	17.5[b]	—
1973	26,201	45.9	0.9	14.7	5.9	5.0	19.4	—
1979	25,041	51.8	0.9	15.5	6.1	5.9	23.4	—
1986	25,257	54.7	0.9	15.1	6.0	6.7	26.0	—
Italy[a,b]								
1960	20,136	31.3	0.7	12.6	4.0	—	14.0[c]	—
1973	18,310	38.6	—	33.0[d]	5.6	—		—
1979[e]	20,266	48.5	—	18.4	5.5	2.4	22.2	—
1986	21,006	56.9	—	21.0	5.3	3.6	27.0	—
Japan[a]				[c]			[b,f]	
1960	44,610	39.7	—	19.0	5.5[g]	—	15.2[h]	—
1973	52,590	49.9	0.6	20.6	6.4	3.0[d]	19.1[e]	0.2
1979	54,790	54.6	0.6	22.4	6.4	5.7	19.3	0.2
1986	58,530	57.6	0.5	22.9	6.0	7.1	20.7	0.4
Netherlands[a]								
1960	—	—	—	—	—	—	—	—
1973[b,c]	4,546	61.6	0.9	17.6	6.2	7.7	29.2	—
1979[c]	4,821	63.2	0.9	17.1	6.1	8.8	30.3	—
1986[d]	51,153	69.3	0.9	16.8	6.5	11.1	34.0	—
Norway[a]								
1960	—	—	—	—	—	—	—	—
1973	1,654	55.8	1.0	16.3	9.9	4.0	24.5	0.1
1979	1,872	62.3	0.9	16.9	9.2	5.8	29.3[b]	0.2
1986[d,e]	2,086	66.9	1.0	17.4	8.6	6.8	33.0[c]	0.1

TABLE 3 continued

Country and Year	Total Employment (Number)	Total Service-Sector Employment	Electricity Gas Water	Trade Restaurants Hotels	Transport Storage Communication	Finance Insurance Real Estate Bus. Services	Community Social Personal Services	Other
Sweden[a,b]								
1960	—	—	—	—	—	—	—	—
1973	3,879	57.0	0.7	14.4	6.9	5.5	29.5	—
1979	4,180	62.4	0.8	13.8	6.9	6.4	34.5	—
1986[c]	4,269	66.5	0.9	13.9	7.1	7.7	36.9	—
Yugoslavia[a,b]								
1960	2,903	41.1	2.7	8.5	6.8	—	23.1[c]	—
1973	4,213	44.6	1.8	13.5	8.2	2.2	18.9	—
1979	5,506	45.2	1.9	13.7	7.7	2.9	19.0	—
1986	6,566	45.3	2.1	13.7	7.7	3.1	18.7	—
United States[a]								
1960	—	—	—	—	—	—	—	—
1973	85,064	63.8	1.4[b]	20.0[c]	5.1	7.3	30.0[d]	—
1979	98,824	66.2	1.4	20.3	5.2	8.2	31.1	—
1986	109,597	70.4	1.3	20.8	5.7	10.7	31.9	—

Notes: Belgium:
[a] Includes persons working abroad.
[b] June of each year.
[c] Includes repair.
[d] Includes finance, insurance, real estate and business services.

France:
[a] Includes professional army.
[b] Data are for 1985.

Germany:
[a] 15 years of age and over.
[b] Includes finance, insurance, real estate and business services.

Italy:
[a] 14 years of age and over.
[b] Includes professional army.
[c] Includes finance, insurance, real estate and business services.
[d] Includes trade, services and finance, insurance and real estate.
[e] Revised definition of employment and industry in 1977.

Japan:
[a] 15 years of age and over.
[b] Includes Armed Forces.
[c] Excludes hotels.
[d] Excludes business services.
[e] Includes business services.
[f] Includes hotels.
[g] Includes electricity, gas, and water.
[h] Includes finance, insurance, real estate and business services.

TABLE 3 continued

Netherlands:
[a] January of each year.
[b] Data are for 1975.
[c] 14 years of age and over.
[d] 15 years of age and over.

Norway:
[a] Persons aged 16-74 years.
[b] Includes professional army.
[c] Includes Armed Forces.
[d] Includes unpaid family workers.
[e] New estimation method begun in 1980.

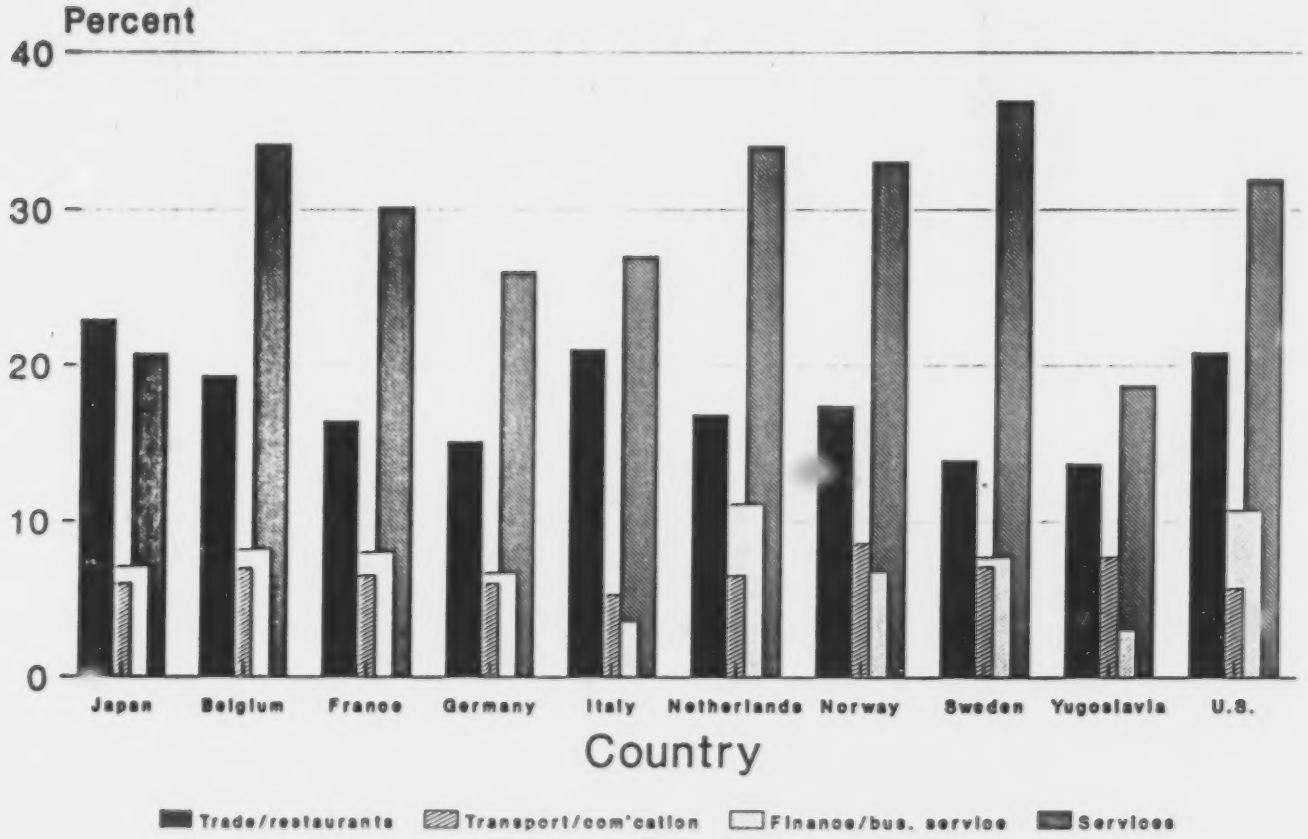
Sweden:
[a] Persons aged 16-74 years.
[b] Includes professional army.
[c] 16 years of age and over.

Yugoslavia:
[a] Socialized sector only.
[b] March and September average of each year.
[c] Includes banks and social insurance.

United States:
[a] 16 years of age and over.
[b] Inlcudes sanitary services.
[c] Excludes hotels.
[d] Includes hotels.

Source: International Labor Office (ILO), Year Book of Labor Statistics, various years, 1960-1987.
Note: Industry classifications are based on the International Standard Industry Classification (ISIC) system.

CHART 3. Employment share of service sector by major industry, 1986 (ISIC based)



Source: Table 3.

TABLE 4a

Employment by detailed service-sector industry by country, 1979 and 1986

(Number in Thousands)

NACE Code	Industry	Japan		Belgium		France		Germany	
		1979a/	1986	1979	1986	1979	1986	1979	1986
6	Trade, hotels & repair	14,727	16,938	424	424	2,729	2,756	3,603	3,535
61	Wholesale	3,936	4,539	167	159	765	812	989	921
62	Scrap & waste material	92	92	4	5	21	21	26	24
63	Agents	25	23	3	3	83	51	154	168
64/65	Retail	6,848	7,656	160	160	1,355	1,327	1,752	1,693
66	Hotels b/	3,350	4,140	50	63	381	426	394	439
67	Repair of consumer goods	475	489c/	40	34	123	119	288	290
7	Transport & Communication	3,257	3,383	255	244	1,270	1,301	1,437	1,437
71	Railways	514	358	61	55	278	254	353	290
72	Other land transport	1,530	1,819	53	55	288	304	249	266
73	Inland water	13	6	2	2	4	3	15	12
74	Sea	103	82	4	6	29	24	48	39
75	Air	38	39	11	9	47	55	46	53
76	Support services	349	399	28	24	38	42	12	13
77	Travel agents, warehousing	86	94d/	18	20	129	133	243	258
79	Communication	624	586	77	73	457	483	472	506
8	Finance and bus. services	3,325	4,377	206	246	1,308	1,575	1,443	1,691
81	Banking and finance	993	1,068	82	90	417	443	537	618
82	Insurance	633	721	28	30	129	153	229	234
83	Bus. services & real estate	1,611	2,420	94	122	685	859	605	762
84/85	Renting & leasing	88	169e/	2	3	78	120	72	76
9	Services	8,293	383	1,077	1,166	5,141	5,987	5,485	6,222
9A	Domestic	——	——	189	159	364	321	66	50
9B	International Org and AP	——	——	0	0	23	37	108	115
91	Public Administration	1,714	1,746	323	334	1,480	1,650	2,236	2,372
92	Sanitary f/	393	599	30	35	203	264	165	236
93	Education	1,782	2,011	269	333	1,107	1,351	958	1,076
94	R&D	138	193	8	8	58	68	49	55
95	Health	1,536	2,088	119	134	881	1,056	981	1,200
96	Social services g/	1,039	1,620	867	110	663	840	531	695
97	Recreational h/	605	805	29	33	215	257	145	174
98	Personal	1,084	1,321	24	21	148	143	242	250
Total	Service Sector	29,601	35,081	1,962	2,078	10,447	11,826	11,916	12,885
Total	All Sectors	——	——	3,172	3,043	17,909	17,896	22,733	22,816

TABLE 4a continued

Employment by Detailed Service-Sector Industry by Selected OECD Countries, 1979 and 1986
(Number in Thousands)

NACE Code	Industry	Netherlands 1979	Netherlands 1986	Sweden 1979	Sweden 1986	United States 1979	United States 1986	Yugoslavia 1980	Yugoslavia 1987
6	Trade, hotels & repair	691	764	616	627	22,481	25,909	892	1,207
61	Wholesale	277	270	188	203	3,741	4,281	172	189
62	Scrap & waste material	4	6	—	—	121	135	—	—
63	Agents	5	8	—	—	—	—	—	—
64/65	Retail	278	347	321	305	12,005	13,085	374	431
66	Hotels[a/]	60	83	67	86	5,370	6,835	193	233
67	Repair of consumer goods	66	51	40	33	1,244[c/]	1,573	153	173
7	Transport & Communication	282	320	290	302	5,860	6,195	399	451
71	Railways	27	28	—	—	610	381	109	118
72	Other land transport	98	109	—	—	2,104	2,224	179	202
73	Inland water	7	6	—	—	195[d/]	199	6	64
74	Sea	14	12	—	—	—	—	17	19
75	Air	15	18	195	197	507	578	9	12
76	Support services	24	22	—	—	202[e/]	294	24	26
77	Travel agents, warehousing	23	29	—	—	152[f/]	112	—	—
79	Communication	75	96	95	105	2,090	2,407	55	68
8	Finance and bus. services	394	505	267	327	9,719	13,813	204	256
81	Banking and finance	101	108	53	62	2,425	3,263	68	88
82	Insurance	37	45	39	48	1,871	2,212	15	19
83	Bus. services & real estate	252	347	175	217	5,423	8,338	120	149
84/85	Renting & leasing	4	6	—	—	—	—	5,423[g/]	8,338
9	Services	1,175	1,575	1,405	1,541	26,336	29,990	1,009	1,192
9A	Domestic	0	0	5	1	1,327	1,241	—	—
9B	International Org and AP	1	29	0	1	1[i/]	871	—	—
91	Public Administration	332	340	212	2,044	464[i/]	5,104	256	289
92	Sanitary[h/]	47	114	32	32	609	847	—	—
93	Education	266	341	309	319	7,821	8,077	296	317
94	R&D	13	23	—	—	380[k/]	348	16	23
95	Health	270	345	399	447	7,031	8,129	247	315
96	Social services[l/]	173	288	338	414	2,007	2,972	73	106
97	Recreational[l/]	45	66	76	84	1,265	1,564	106	126
98	Personal	29	28	40	39	1,432	1,708	14	19
Total	Service Sector[m/]	2,542	3,164	2,578	2,797	64,396	75,907	2,504	2,928
Total	All Sectors	4,124	4,542	4,180	4,269	96,945	109,597	5,798	6,866

TABLE 4a continued

a/ 1978, 1979 data were not available
b/ Includes eating and drinking places
c/ Includes repair of both consumer & producer goods
d/ Includes inland and sea transport
e/ Includes travel agents and brokers
f/ Travel agents excluded
g/ Not available separately; included in business services
h/ Includes services to buildings
i/ Religious, social, nonprofit and membership organizations
j/ Include libraries, museums, zoos, etc.
k/ Include miscellaneous professional services
l/ Includes international organizations and national security
m/ Rental only
n/ Included in wholesale
o/ Included in social
p/ Excludes foreign trade and public utilities.

Sources: Belgium, France, Germany, and the Netherlands: Special OECD datafile based on data published in Eurostat's Employment and Unemployment, 1987.
Japan: Establishment Census of Japan, 1978 and 1986, Statistics Bureau, Management and Coordination Agency.
Sweden: arbetskrafts undersokningen, aramedeltal 1979, 1986.
U.S.: Department of Labor, Bureau of Labor Statistics, Employment and Earnings, January 1980 and 1987.
Yugoslavia: Employment in the service sector in Yugoslavia, Marija M. Ratkovic, Draft Report, January 1989.

Note: Industry classifications are based on the Eurostat NACE system.

Table 4b

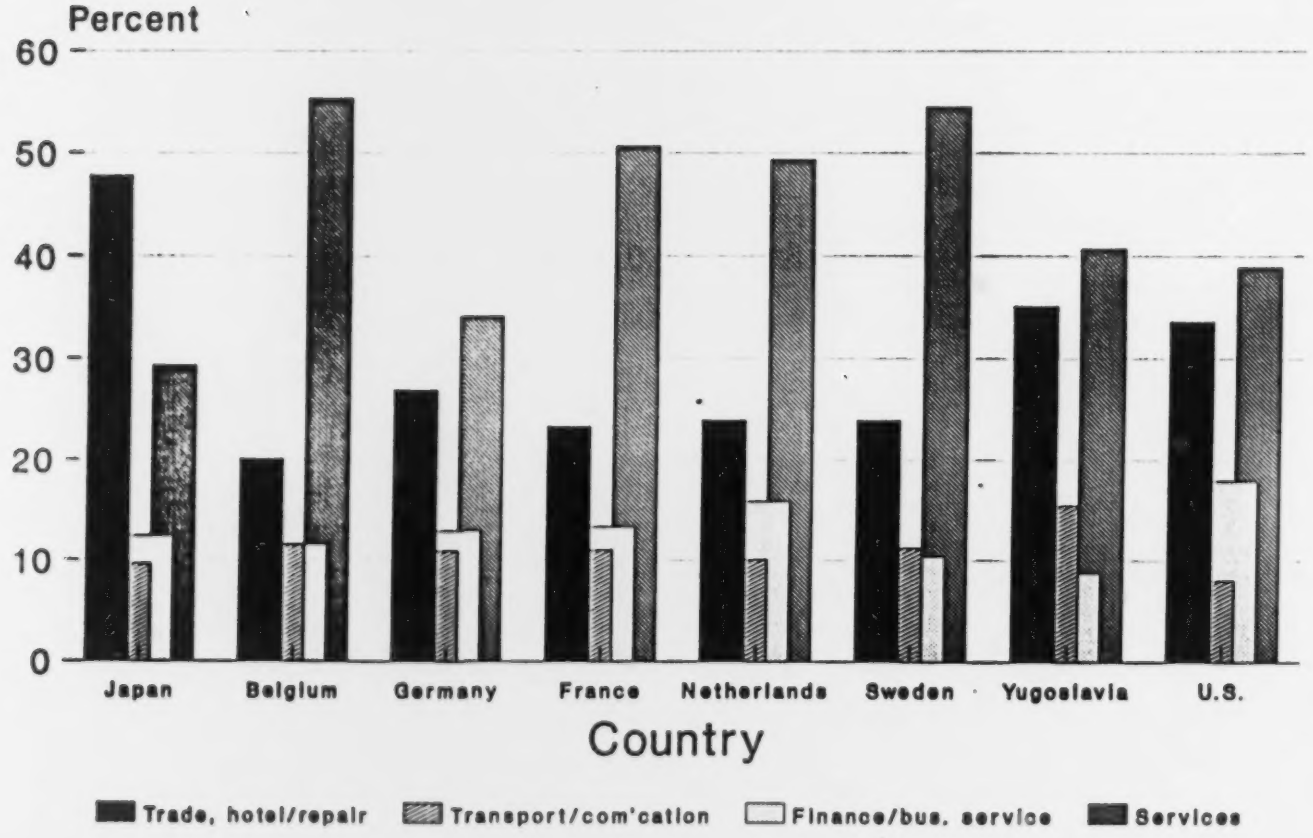
The distribution of employment by major service-sector industry and country in 1986, and the share of the change between 1979 and 1986

Industry	Country															
	Japan		Belgium		Germany		France		Nether-lands		Sweden		Yugo-slavia		U.S.	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Services, total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Trade, hotel & repair	47.8	40.3	20.1	-0.1	26.9	7.3	23.3	2.2	23.9	12.2	23.9	5.0	35.1	31.8	33.6	29.6
Transport & communication	9.6	2.3	11.5	-10.2	10.9	0.0	11.0	2.6	10.0	6.3	11.2	5.5	15.4	12.2	8.0	2.9
Finance, business services & real estate	12.4	19.2	11.6	34.1	12.9	26.5	13.3	22.2	15.8	18.3	10.4	24.4	8.8	12.4	17.9	35.3
Services	29.3	38.1	55.3	77.4	47.4	79.1	50.6	70.7	49.3	65.9	54.5	62.1	40.7	43.6	38.9	31.5

(1) = Employment share in 1986.
(2) = Share of change from 1979 to 1986.

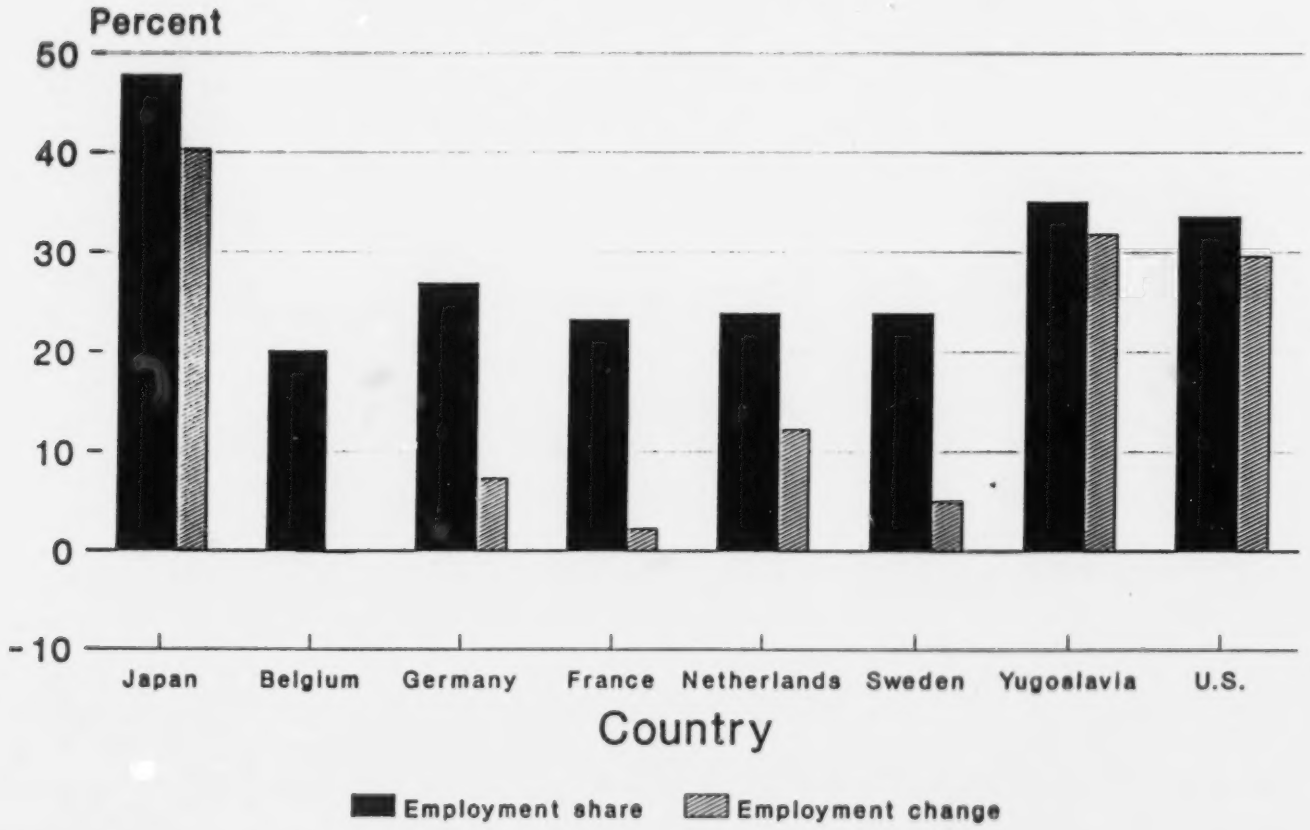
Source: Table 4a.

CHART 4. Employment share of service sector by major industry, 1986 (NACE based)



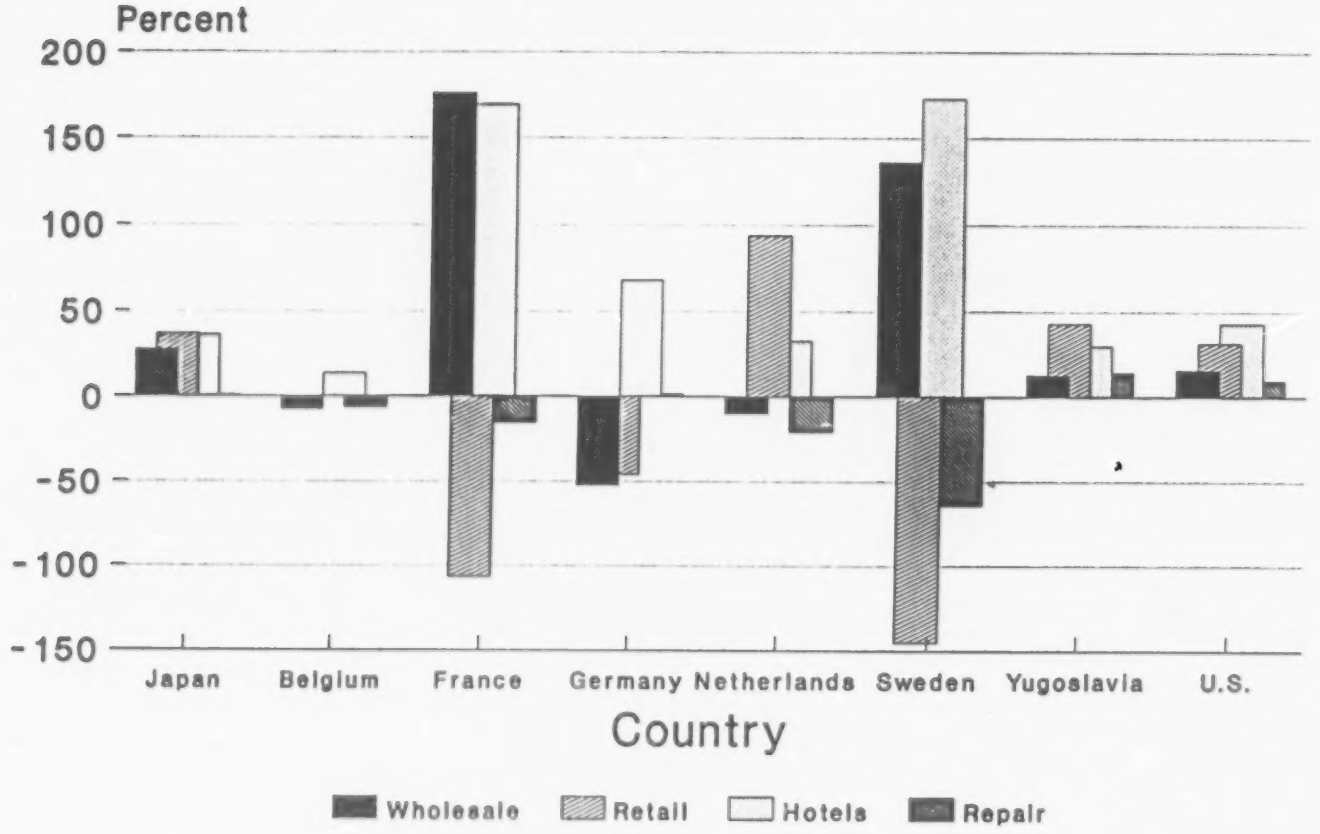
Source: Table 4.

CHART 5. Employment share in 1986, and share of change 1979 to 1986, trade, hotel & repair industry



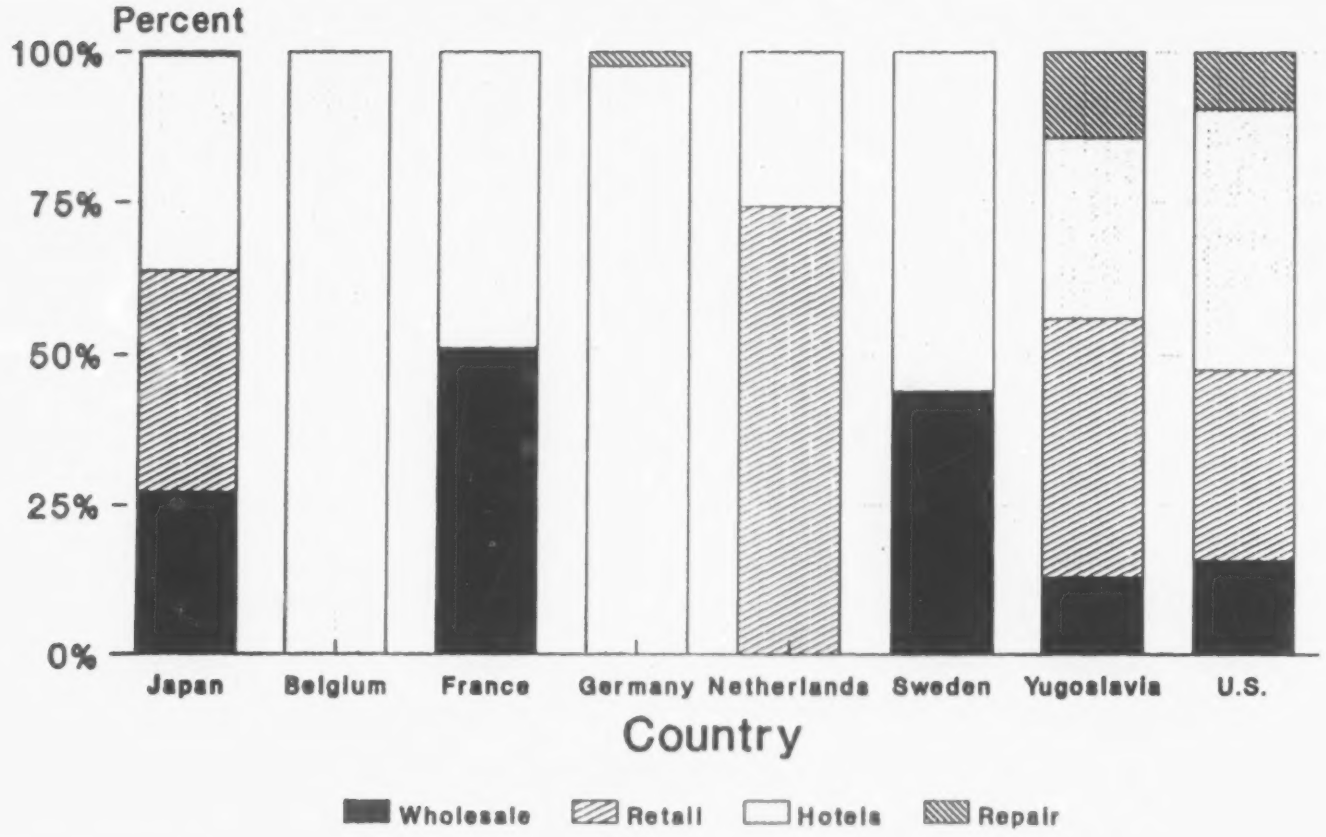
Source: Table 4.

CHART 6. Percent distribution of 1979-1986 employment change, trade, hotel & repair industry



Source: Table 4.

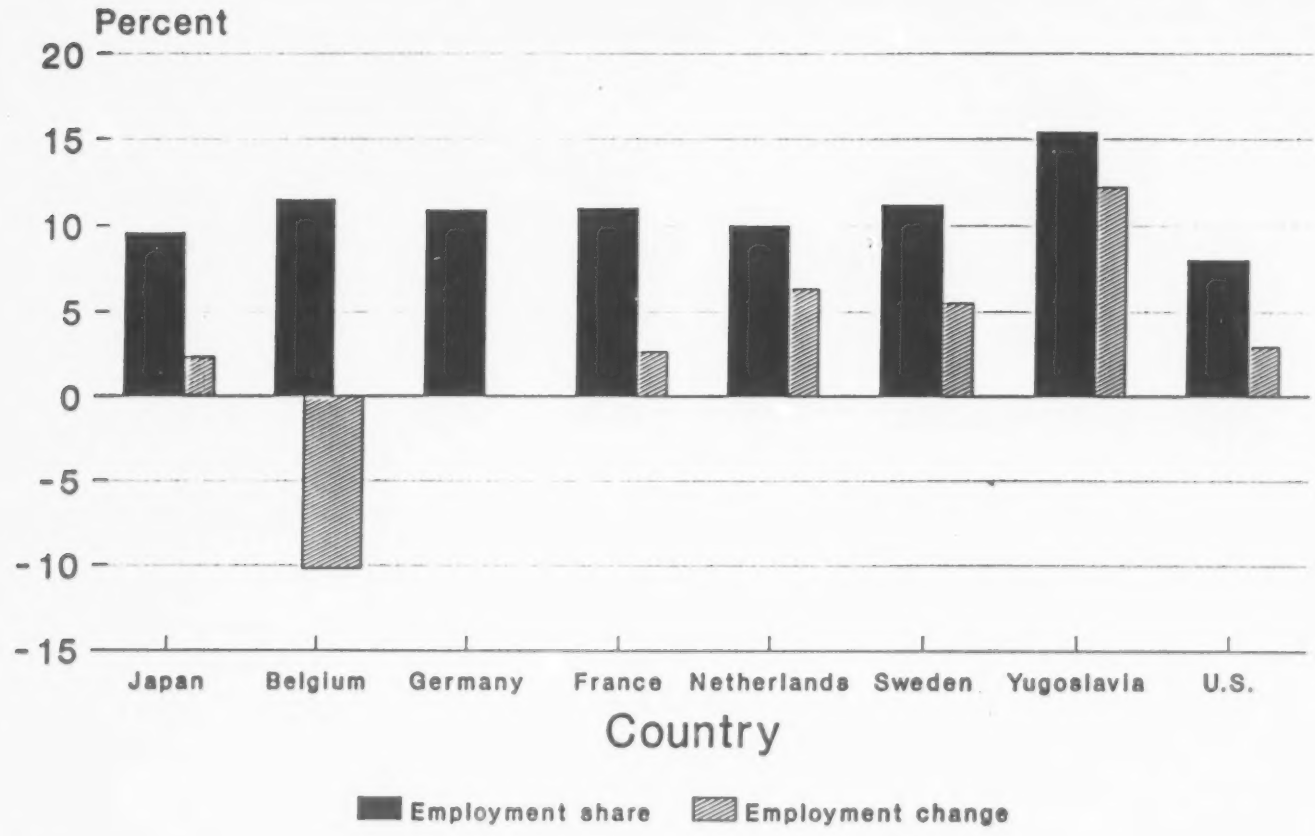
CHART 7. Percent distribution of 1979-1986 employment increase, trade, hotel & repair industry



52

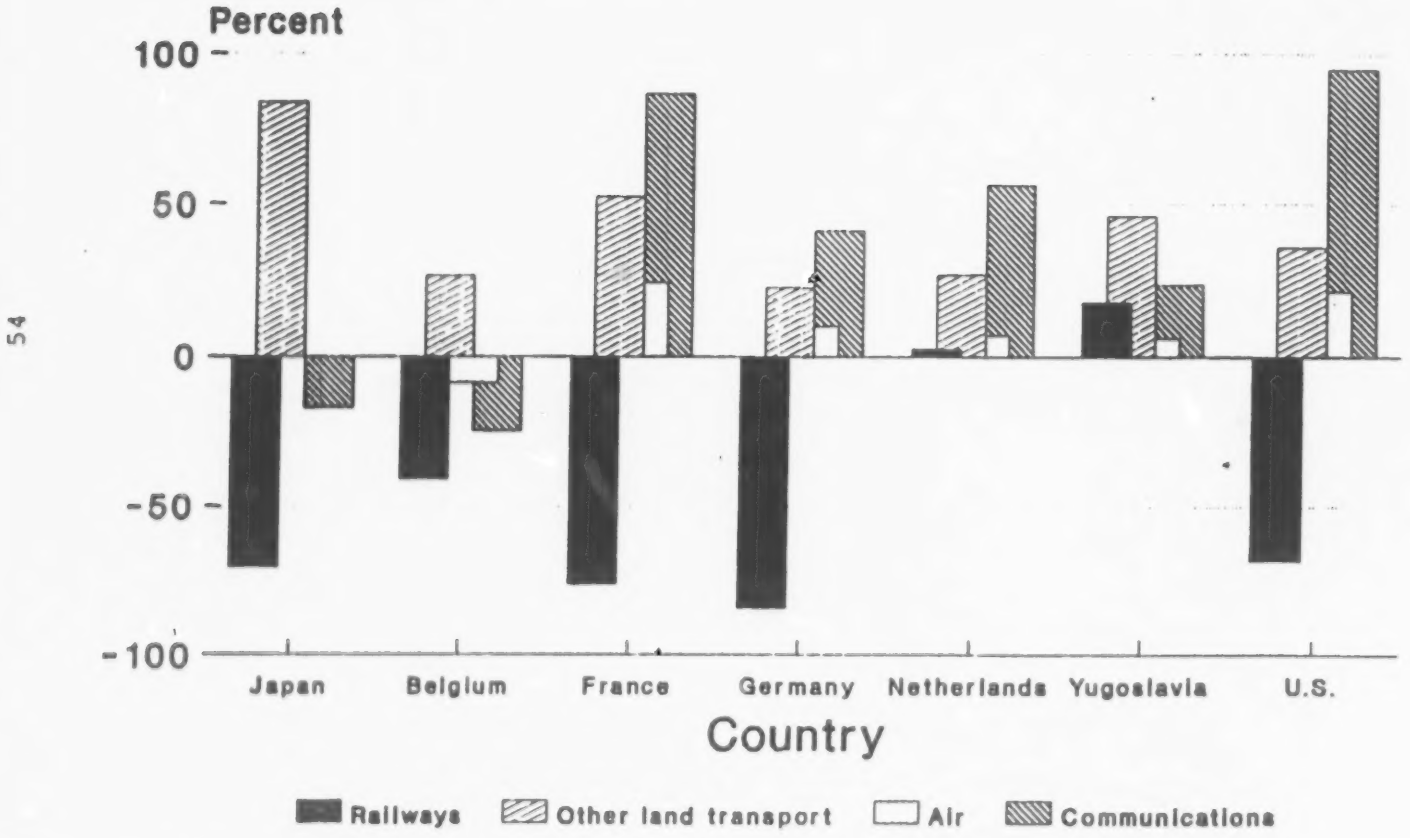
Source: Table 4.

CHART 8. Employment share in 1986, and share of change 1979 to 1986, transport & communication industry



Source: Table 4.

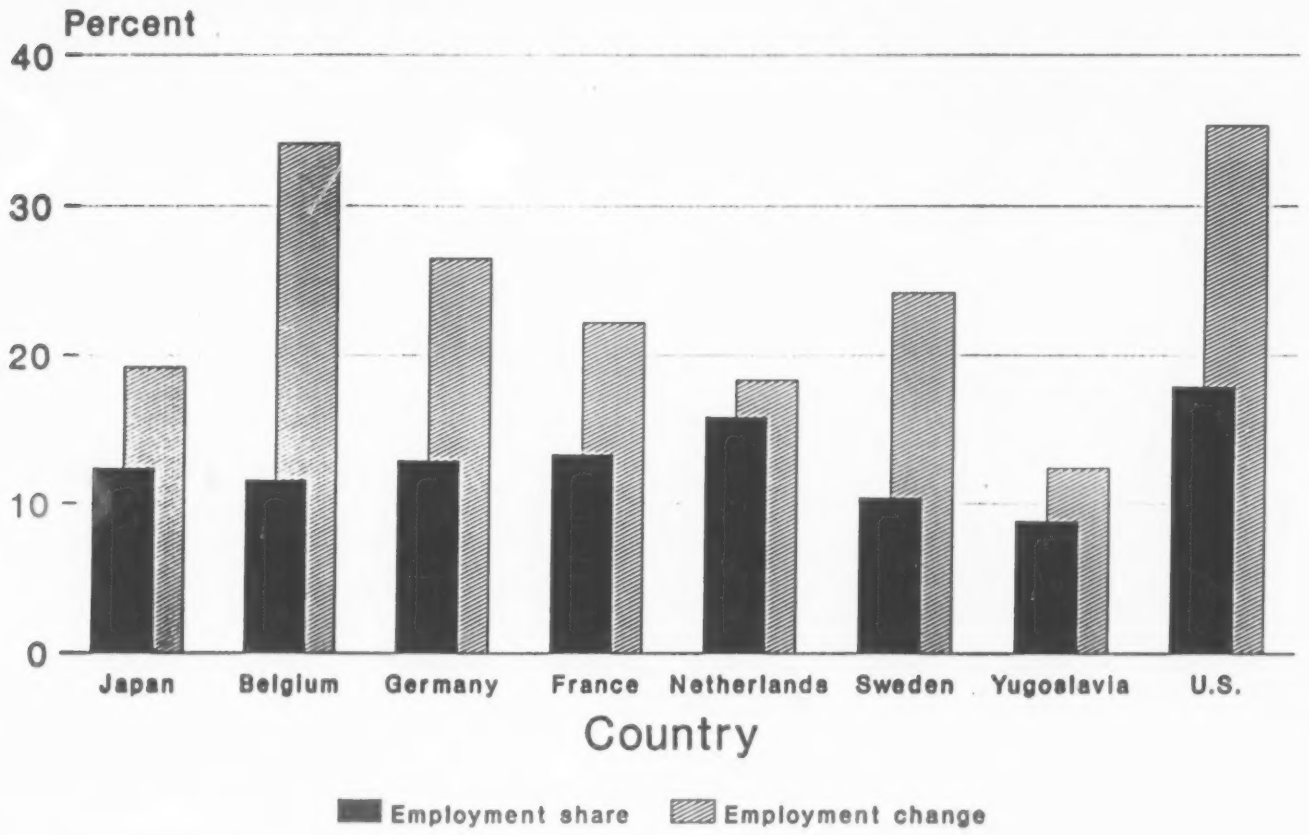
CHART 9. Percent distribution of 1979-1986 employment change, transport & communications industry



54

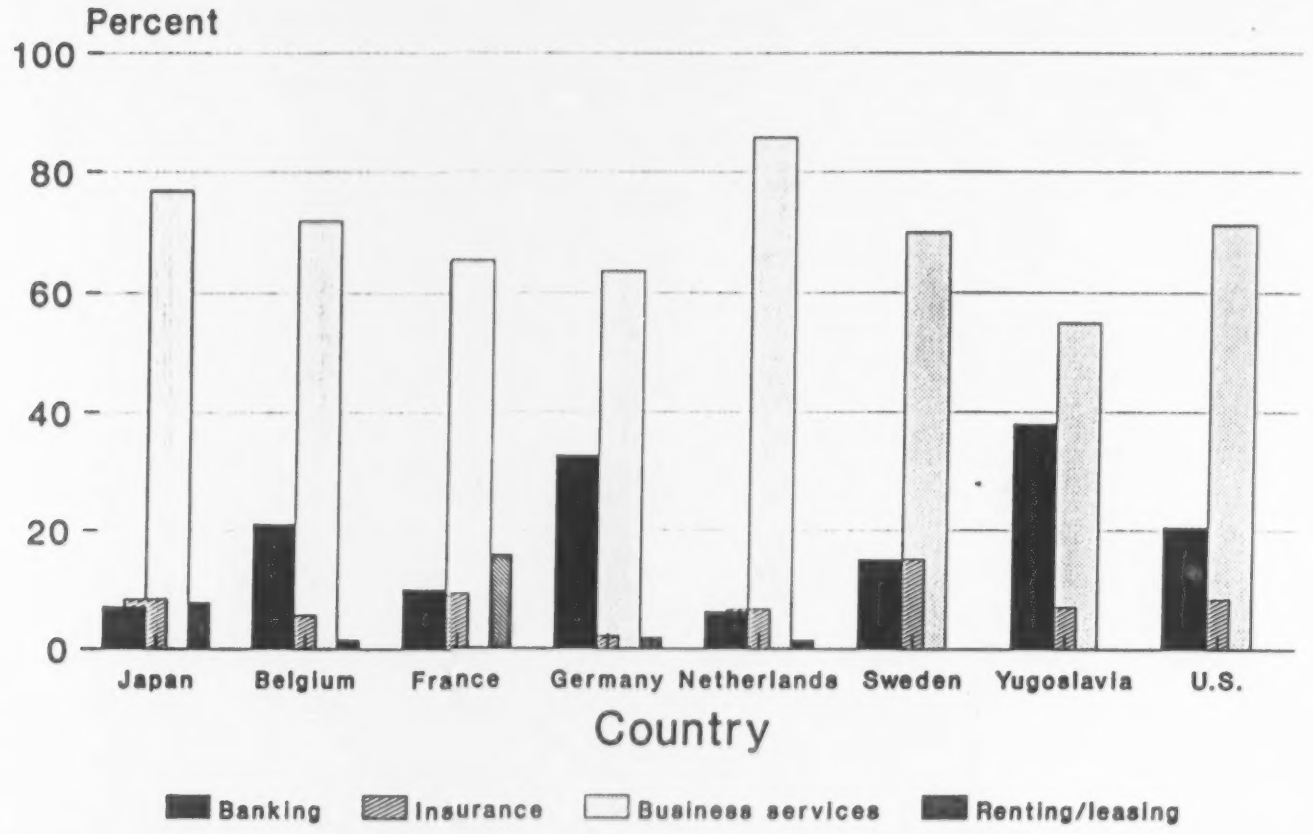
Source: Table 4.

CHART 10. Employment share in 1986, and employment change 1979 to 1986, finance, business services & real estate



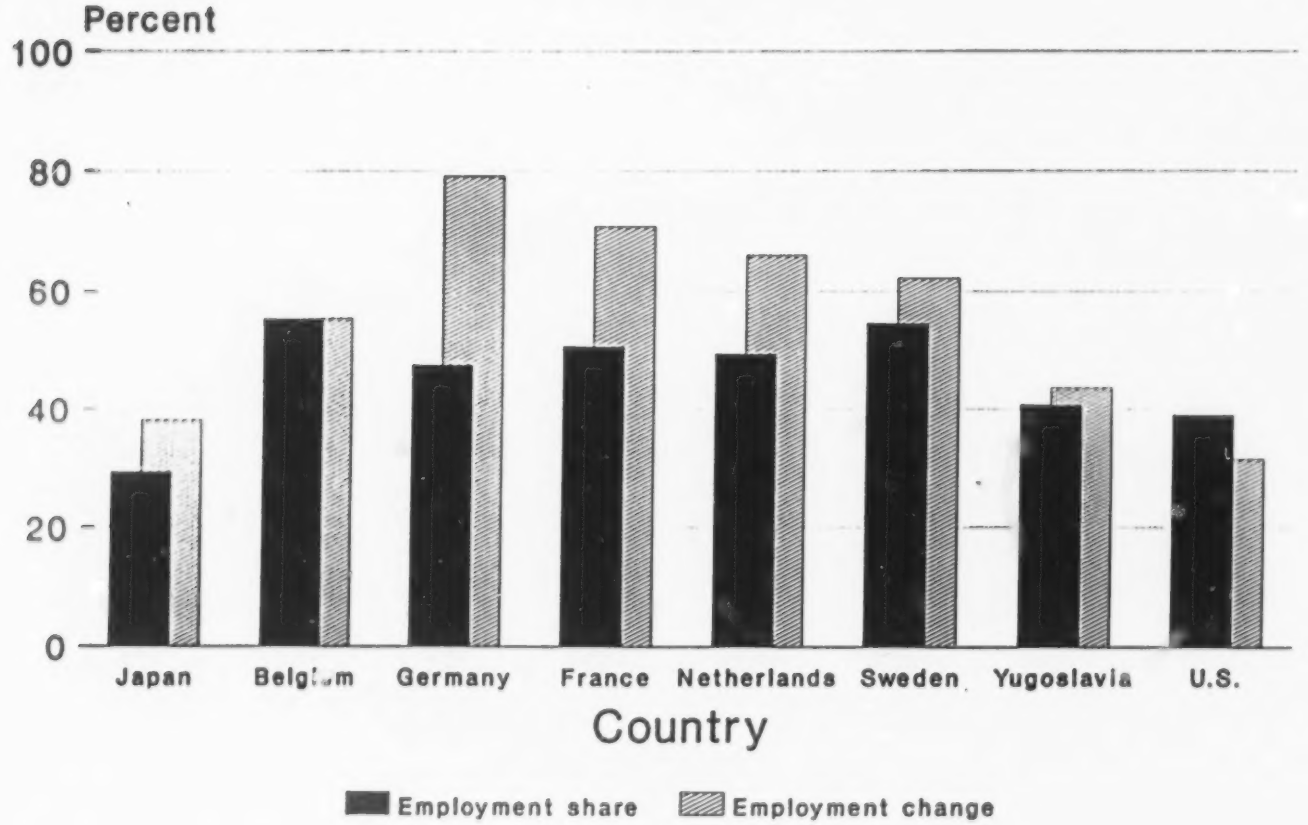
Source: Table 4.

CHART 11. Percent distribution of 1979-1986 employment change, finance, busines services & real estate industry



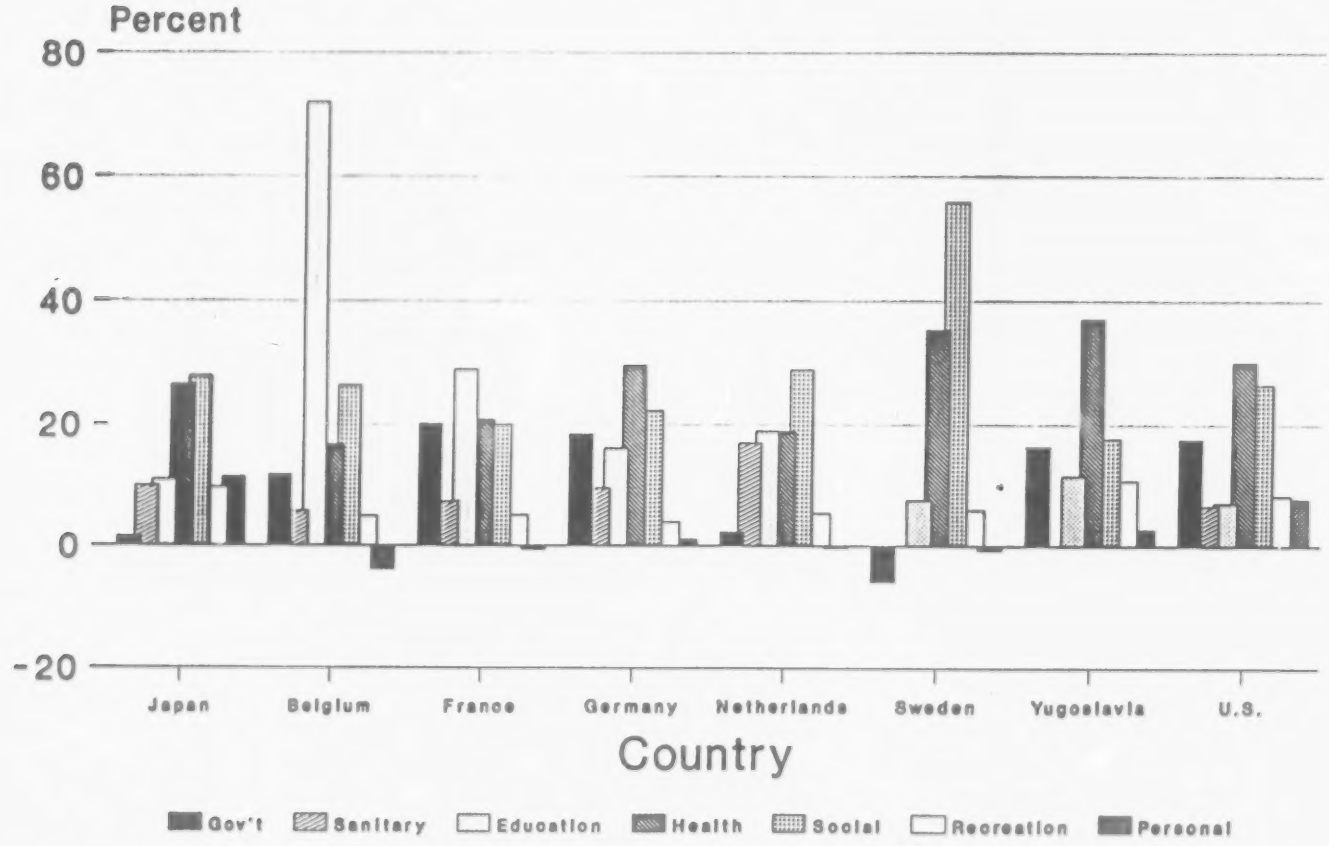
Source: Table 4.

CHART 12 Employment share in 1986, and employment change 1979 to 1986, services industry



Source: Table 4.

CHART 13. Percent distribution of 1979-1986 employment change, services industry



Source: Table 4.

Table 5

The distribution of employment by economic sector, by age and gender, by country, 1986

Employment	Total Number	Total	Youth 24 or under	Prime-age 25-54 yrs	Older 55 or over
Japan					
Total	58,530,000	100	12.2	69.6	18.3
Agriculture	4,950,000	100	2.2	44.0	53.7
Industry	20,180,000	100	11.4	74.5	14.1
Services	33,410,000	100	14.2	70.2	15.6
Men	35,260,000	100	10.2	71.1	18.7
Agriculture	2,590,000	100	2.7	41.6	55.6
Industry	13,660,000	100	10.5	74.6	14.9
Services	19,020,000	100	11.1	72.5	16.5
Women	23,270,000	100	15.2	67.2	17.6
Agriculture	2,360,000	100	1.3	46.8	51.9
Industry	6,520,000	100	13.4	74.2	12.5
Services	14,400,000	100	18.3	67.3	14.4
Belgium					
Total	3,521,588	100	12.7	63.2	24.1
Agriculture	112,448	100	3.7	5.9	90.5
Industry	1,126,637	100	15.4	70.9	13.8
Services	2,282,503	100	11.8	62.3	25.9
Men	2,272,075	100	10.8	63.9	25.3
Agriculture	79,277	100	5.0	6.5	88.5
Industry	912,217	100	13.7	71.5	14.9
Services	1,280,581	100	9.1	62.0	28.9
Women	1,249,513	100	16.2	62.1	21.8
Agriculture	33,171	100	0.7	4.3	95.1
Industry	214,420	100	22.5	68.4	9.0
Services	1,001,922	100	15.3	62.6	22.1

Table 5 continued

Employment	Total Number	Total	Youth 24 or under	Prime-age 25-54 yrs	Older 55 or over
Germany					
Total	**26,487,500**	**100**	**19.1**	**60.8**	**20.1**
Agriculture	**1,314,750**	**100**	**8.5**	**11.6**	**79.9**
Industry	**10,676,000**	**100**	**19.8**	**65.9**	**14.3**
Services	**14,496,750**	**100**	**19.6**	**61.5**	**18.9**
Men	**16,156,000**	**100**	**16.4**	**62.3**	**21.3**
Agriculture	**701,500**	**100**	**11.0**	**15.0**	**73.9**
Industry	**8,086,000**	**100**	**18.7**	**66.3**	**15.1**
Services	**7,368,500**	**100**	**14.4**	**62.5**	**23.1**
Women	**10,331,500**	**100**	**23.4**	**58.4**	**18.3**
Agriculture	**613,250**	**100**	**5.7**	**7.7**	**86.6**
Industry	**2,590,000**	**100**	**23.3**	**64.7**	**12.0**
Services	**7,128,250**	**100**	**25.0**	**60.4**	**14.7**
France					
Total	21,415,058	100	13.0	64.8	22.2
Agriculture	1,627.004	100	3.5	10.1	86.4
Industry	6,712,890	100	13.5	72.3	14.1
Services	13,075,164	100	13.9	67.7	18.4
Men	12,379,260	100	11.7	64.7	23.6
Agriculture	1,048,503	100	4.1	12.4	83.5
Industry	5,030,577	100	12.9	72.2	14.9
Services	6,300,180	100	12.1	67.3	20.6
Women	9,035,798	100	14.7	64.9	20.4
Agriculture	578,501	100	2.4	6.1	91.5
Industry	1,682,313	100	15.4	72.8	11.8
Services	6,774,984	100	15.6	67.9	16.4

Table 5 continued

Employment	Total Number	Total	Youth 24 or under	Prime-age 25-54 yrs	Older 55 or over
Sweden					
Total	4,269,000	100	15.3	70.7	14.0
Agriculture	179,000	100	11.7	63.1	26.3
Industry	1,287,000	100	17.2	68.8	14.1
Services	2,802,000	100	14.7	72.0	13.3
Men	2,238,000	100	14.9	70.7	14.4
Agriculture	126,000	100	12.7	61.9	25.4
Industry	990,000	100	16.8	69.5	13.8
Services	1,121,000	100	13.5	72.6	13.7
Women	2,031,000	100	15.8	70.7	13.5
Agriculture	53,000	100	9.4	66.0	24.5
Industry	297,000	100	18.9	66.3	14.8
Services	1,681,000	100	15.5	71.6	12.9
U.S. a/					
Total	110,331,000	100	19.0	68.0	13.0
Agriculture	3,415,000	100	21.3	56.5	22.2
Industry	30,442,000	100	14.6	73.1	12.3
Services	76,474,000	100	20.6	66.5	12.9
Men	61,266,000	100	17.8	68.4	13.8
Agriculture	2,718,000	100	22.6	54.2	23.1
Industry	22,668,000	100	14.7	73.0	12.4
Services	35,879,000	100	19.5	66.6	13.9
Women	49,066,000	100	20.4	67.5	12.1
Agriculture	697,000	100	16.2	65.4	18.4
Industry	7,774,000	100	14.6	73.4	12.1
Services	40,595,000	100	21.6	66.5	12.0

a/ 15 years of age and over.

Sources: Same as table 4a.

Table 6

The distribution of employment by economic sector, by non-standard forms of work, by country, 1986

Employment	Total Number	Total	Non-standard Total	Part Time	Self Emp.	Temp.
Japan						
Total	58,530,000	100	--	18.1	25.0	5.5
Agriculture	4,950,000	100	--	35.6	91.1	1.2
Industry	20,180,000	100	--	13.4	16.5	5.3
Services	33,410,000	100	--	17.1	20.3	6.3
Men	35,260,000	100	--	7.7	20.5	2.4
Agriculture	2,590,000	100	--	24.8	87.6	0.8
Industry	13,660,000	100	--	5.4	13.0	2.3
Services	19,020,000	100	--	7.0	16.7	2.6
Women	23,270,000	100	--	30.2	31.8	10.2
Agriculture	2,360,000	100	--	47.0	94.5	1.7
Industry	6,520,000	100	--	29.9	23.9	11.3
Services	14,400,000	100	--	27.7	25.0	11.0
Belgium						
Total	3,521,588	100	31.5	6.6	19.1	5.8
Agriculture	112,448	100	91.8	1.1	89.7	1.0
Industry	1,126,637	100	14.5	2.3	9.1	3.1
Services	2,282,503	100	36.9	9.1	20.5	7.3
Men	2,272,075	100	23.8	1.0	19.1	3.7
Agriculture	79,277	100	89.5	0.5	87.6	1.4
Industry	912,217	100	12.8	0.6	9.7	2.5
Services	1,280,581	100	27.6	1.4	21.6	4.6
Women	1,249,513	100	45.5	16.8	19.1	9.6
Agriculture	33,171	100	97.3	2.6	94.7	0.0
Industry	214,420	100	21.6	9.2	6.8	5.6
Services	1,001,922	100	48.9	19.0	19.2	10.7

Table 6 continued

Employment	Total Number	Total	Non-standard			
			Total	Part Time	Self Emp.	Temp.
Germany						
Total	**26,487,500**	**100**	**32.7**	**11.1**	**11.9**	**9.7**
Agriculture	**1,314,750**	**100**	**85.6**	**3.3**	**77.4**	**4.9**
Industry	**10,676,000**	**100**	**19.8**	**6.4**	**5.4**	**8.0**
Services	**14,496,750**	**100**	**37.4**	**15.5**	**10.8**	**11.4**
Men	**16,156,000**	**100**	**23.4**	**2.1**	**12.3**	**9.0**
Agriculture	**701,500**	**100**	**79.1**	**1.7**	**71.0**	**6.4**
Industry	**8,086,000**	**100**	**15.1**	**1.5**	**5.8**	**7.8**
Services	**7,368,500**	**100**	**27.2**	**2.8**	**13.9**	**10.5**
Women	**10,331,500**	**100**	**47.2**	**25.0**	**11.3**	**10.9**
Agriculture	**613,250**	**100**	**93.1**	**5.1**	**84.8**	**3.2**
Industry	**2,590,000**	**100**	**34.5**	**21.6**	**4.2**	**8.7**
Services	**7,128,250**	**100**	**47.9**	**28.0**	**7.6**	**12.3**
France						
Total	21,415,058	100	30.4	8.6	16.5	5.3
Agriculture	1,627.004	100	88.0	1.9	84.8	1.3
Industry	6,712,890	100	17.3	3.6	9.1	4.6
Services	13,075,164	100	30.1	12.1	11.8	6.2
Men	12,379,260	100	25.2	2.2	18.2	4.8
Agriculture	1,048,503	100	84.3	1.4	81.8	1.1
Industry	5,030,577	100	15.4	1.2	9.7	4.5
Services	6,300,180	100	23.2	3.1	14.3	5.8
Women	9,035,798	100	37.7	17.5	14.3	5.9
Agriculture	578,501	100	94.6	2.7	90.3	1.6
Industry	1,682,313	100	22.9	10.8	7.3	4.8
Services	6,774,984	100	36.5	20.4	9.5	6.6

Table 6 continued

Employment	Total Number	Total	Non-standard Total	Part Time	Self Emp.	Temp.
Sweden						
Total	4,269,000	100	--	23.5	6.5	--
Agriculture	179,000	100	--	16.8	57.4	--
Industry	1,287,000	100	--	11.4	3.5	--
Services	2,802,000	100	--	29.5	4.6	--
Men	2,238,000	100	--	6.0	8.3	--
Agriculture	126,000	100	--	5.6	53.2	--
Industry	990,000	100	--	4.2	3.8	--
Services	1,121,000	100	--	7.6	7.2	--
Women	2,031,000	100	--	42.8	4.5	--
Agriculture	53,000	100	--	43.4	69.8	--
Industry	297,000	100	--	35.4	2.4	--
Services	1,681,000	100	--	44.1	2.9	--
U.S. a/						
Total	110,331,000	100	--	19.4	11.5	--
Agriculture	3,415,000	100	--	23.1	52.6	--
Industry	30,442,000	100	--	8.2	8.3	--
Services	76,474,000	100	--	23.7	11.0	--
Men	61,266,000	100	--	12.3	14.6	--
Agriculture	2,718,000	100	--	19.5	53.0	--
Industry	22,668,000	100	--	6.7	9.7	--
Services	35,879,000	100	--	15.3	14.8	--
Women	49,066,000	100	--	28.3	7.6	--
Agriculture	697,000	100	--	37.4	28.3	--
Industry	7,774,000	100	--	12.5	3.9	--
Services	40,595,000	100	--	31.1	7.6	--

Table 6 continued

a/ 15 years of age and over.

Notes: Part-time workers: In Belgium, Germany and France, those who declare themselves part time at the time of the survey. In Japan, those who actually worked less than 35 hours during the survey week. In Sweden and the U.S., those who usually worked less than 35 hours during the survey week.

Self-employed: In all countries, those working for themselves in own farm, professional practice, or business, both incorporated and unincorporated, and those working without pay in a family farm or business (unpaid family workers).

Temporary workers: In all countries, those employed for a specific period of a month or more but not more than a year, plus those employed on a daily basis or for a specific period for less than a month.

Sources: Same as table 4a.

Table 7

The distributon of employment by detailed industry, by worker characteristics, by country, 1986

NACE	Industry	Total Employed	Non-standard Total	Part Time	Self Emp.	Temp.	Youth	Women
Japan				a/				
01-98	Total	53,530,000	—	16.6	25.0	5.5	12.2	39.8
01-03	Agriculture	4,950,000	—	35.6	91.1	1.2	2.2	47.7
11-50	Industry	20,180,000	—	13.4	16.5	5.3	11.4	32.3
61-98	Services	33,410,000	—	17.1	20.3	6.3	14.2	43.1
6	Trade/hotel/repair	13,390,000	—	16.7	29.9	7.5	14.6	47.7
61	Wholesale	401,000	—	—	—	3.2	14.5	30.9
62	Scrap/waste material	—	—	—	—	—	—	—
63	Agents	—	—	—	—	—	—	—
64/65	Retail	696,000	—	—	—	8.5	14.2	53.0
66	Hotels b/	243,000	—	—	—	8.5	28.2	60.1
67	Repair/consumer/goods	—	—	—	—	—	—	—
7	Transport/com'ication	3,530,000	—	7.5	5.7	3.4	10.8	13.3
71	Railways	—	—	—	—	—	—	—
72	Other land transport	—	—	—	—	—	—	—
73	Inland water	—	—	—	—	—	—	—
74	Sea	—	—	—	—	—	—	—
75	Air	—	—	—	—	—	—	—
76	Support services	—	—	—	—	—	—	—
77	Storage/travel agents	—	—	—	—	—	—	—
79	Communication	—	—	—	—	—	—	—
8	Finance/business services & real estate c/	2,250,000	—	13.1	8.0	3.6	16.0	46.2
81	Banking & finance	—	—	—	—	—	—	—
82	Insurance	—	—	—	—	—	—	—
83	Bus. services/real est	—	—	—	—	—	—	—
84/85	Renting & leasing	—	—	—	—	—	—	—
9	Services d/	12,247,000	—	19.3	19.6	6.6	14.5	50.5
9A	Domestic	—	—	—	—	—	—	—
9B	Diplomatic	—	—	—	—	—	—	—
91	Public administration	—	—	—	—	—	—	—
92	Sanitary	—	—	—	—	—	—	—
93	Education	—	—	—	—	—	—	—
94	R & D	—	—	—	—	—	—	—
95	Health	—	—	—	—	—	—	—
96	Social services	—	—	—	—	—	—	—
97	Recreational	—	—	—	—	—	—	—
98	Personal	—	—	—	—	—	—	—

Table 7 continued

NACE	Industry	Total Employed	Non-standard Total	Part Time	Self Emp.	Temp.	Youth	Women
Belgium								
01-98	Total	3,521,588	31.5	6.6	19.1	5.8	12.7	35.5
01-03	Agriculture	112,448	91.8	1.1	89.7	1.0	3.7	29.5
11-50	Industry	1,126,637	14.5	2.3	9.1	3.1	15.4	19.0
61-98	Services	2,282,503	36.9	9.1	20.5	7.3	11.8	43.9
6	Trade/hotel/repair	659,490	59.5	9.1	47.3	3.1	13.3	44.0
61	Wholesale	131,407	33.6	7.3	24.2	2.1	13.2	30.5
62	Scrap/waste material	4,736	50.4	6.3	38.6	5.5	12.4	11.8
63	Agents	11,906	37.3	2.4	34.0	0.9	11.8	35.7
64/65	Retail	356,037	67.6	10.8	54.1	2.7	12.6	52.1
66	Hotels	105,707	74.4	9.5	60.6	4.3	13.5	51.5
67	Repair/consumer/goods	49,697	44.5	3.1	35.3	6.1	18.4	10.3
7	Transport/com'ication	255,860	10.6	1.8	6.1	2.7	8.3	12.9
71	Railways	57,650	3.4	0.2	0.0	3.2	9.4	3.8
72	Other land transport	67,458	18.8	1.8	14.9	2.1	8.2	7.9
73	Inland water	3,272	91.9	0.0	91.9	0.0	0.0	38.3
74	Sea	5,289	6.2	0.0	6.2	0.0	14.2	3.4
75	Air	12,129	4.3	1.4	1.0	1.9	14.2	17.9
76	Support services	22,993	6.9	1.3	3.8	1.8	10.8	15.2
77	Storage/travel agents	12,447	18.7	5.9	10.0	2.8	13.8	44.6
79	Communication	74,622	6.4	2.9	0.0	3.5	4.8	17.1
8	Finance/business services & real estate	245,869	32.6	8.2	20.1	4.3	9.9	38.7
81	Banking & finance	90,426	14.2	8.9	2.4	2.9	9.7	37.3
82	Insurance	39,898	22.3	6.7	13.3	2.3	9.3	48.7
83	Bus. services/real est	109,595	50.4	7.5	37.1	5.8	10.0	35.8
84/85	Renting & leasing	5,960	53.8	19.8	22.5	11.5	12.6	44.9
9	Services	1,121,284	30.6	10.9	8.2	11.5	12.2	52.1
9A	Domestic	7,818	53.7	29.1	3.4	21.2	8.8	76.0
9B	Diplomatic	13,023	3.7	1.3	0.0	2.4	4.8	29.0
91	Public administration	345,512	17.4	5.5	0.2	11.7	13.3	30.1
92	Sanitary	23,188	49.5	31.0	9.7	8.8	10.8	48.0
93	Education	293,464	25.3	11.2	0.5	13.6	8.6	62.1
94	R & D	9,102	23.6	4.1	1.9	17.6	16.5	38.1
95	Health	173,934	46.7	15.5	24.8	6.4	11.9	66.1
96	Social services	154,771	30.6	15.7	1.0	13.9	17.6	67.0
97	Recreational	43,920	47.0	7.2	21.2	18.6	11.2	39.5
98	Personal	56,552	71.9	8.8	58.7	4.4	13.5	65.6

Table 7 continued

NACE	Industry	Total Employed	Non-standard Total	Part Time	Self Emp.	Temp.	Youth	Women
Germany								
01-98	Total	26,487,500	32.7	11.1	11.9	9.7	19.1	39.0
01-03	Agriculture	1,314,750	85.6	3.3	77.4	4.9	8.5	46.6
11-50	Industry	10,676,000	19.8	6.4	5.4	8.0	19.8	24.3
61-98	Services	14,496,750	37.4	15.5	10.8	11.4	19.6	49.2
6	Trade/hotel/repair	4,464,250	45.5	15.9	18.0	11.6	24.5	52.3
61	Wholesale	800,750	28.1	11.1	8.6	8.4	18.2	35.6
62	Scrap/waste material	13,500	42.6	1.8	31.5	9.3	11.1	22.2
63	Agents	119,250	50.1	11.3	33.3	5.5	9.4	36.7
64/65	Retail	2,519,000	49.2	20.5	17.4	11.3	25.8	61.9
66	Hotels	693,500	54.3	11.2	30.7	12.4	23.0	58.5
67	Repair/consumer/goods	318,250	39.4	4.1	12.9	22.5	39.9	12.6
7	Transport/com'ication	1,548,250	20.8	14.7	6.1	5.0	13.8	22.8
71	Railways	283,000	7.8	3.4	0.4	4.0	10.0	5.9
72	Other land transport	264,500	31.8	8.6	19.6	3.6	8.1	15.5
73	Inland water	13,500	35.2	1.8	31.5	1.9	14.8	22.2
74	Sea	29,250	8.5	1.6	2.6	4.3	6.8	10.3
75	Air	41,000	15.9	9.2	1.8	4.9	8.5	33.5
76	Support services	68,250	17.2	5.5	4.0	7.7	11.7	17.9
77	Storage/travel agents	315,750	25.7	8.4	10.6	6.7	16.3	24.5
79	Communication	533,000	20.6	15.6	0.0	5.0	18.1	34.8
8	Finance/business services & real estate	1,996,000	36.7	12.4	16.2	8.1	17.6	46.6
81	Banking & finance	639,000	21.6	11.8	1.1	8.7	23.2	53.8
82	Insurance	278,500	27.8	9.6	12.2	6.0	12.6	41.4
83	Bus. services/real est	1,053,750	48.2	13.6	26.2	8.4	15.7	43.7
84/85	Renting & leasing	24,750	35.4	10.2	23.2	2.0	11.1	41.4
9	Services	6,488,250	35.9	16.9	5.3	13.7	18.2	54.1
9A	Domestic	71,000	65.5	50.0	2.5	13.0	24.6	98.6
9B	Diplomatic	62,250	8.8	3.2	0.0	5.6	16.1	30.1
91	Public administration	2,297,000	25.5	11.9	0.0	13.6	18.0	34.9
92	Sanitary	215,000	45.2	30.8	6.0	8.4	14.8	48.8
93	Education	1,052,750	40.1	22.4	2.9	14.8	7.3	56.7
94	R & D	70,000	35.7	8.9	5.4	21.4	9.6	29.6
95	Health	1,375,000	39.7	16.2	10.1	13.4	26.0	74.7
96	Social services	691,250	35.3	22.3	0.7	12.3	16.5	65.3
97	Recreational	276,500	51.5	12.6	24.1	14.8	9.0	44.8
98	Personal	377,000	57.5	16.4	22.9	18.2	34.2	78.0

Table 7 continued

NACE	Industry	Total Employed	Non-standard Total	Part Time	Self Emp.	Temp.	Youth	Women
France								
01-98	Total	21,415,058	30.4	8.6	16.5	5.3	13.0	42.2
01-03	Agriculture	1,627,004	88.0	1.9	84.8	1.3	3.5	35.6
11-50	Industry	6,712,890	17.3	3.6	9.1	4.6	13.5	25.1
61-98	Services	13,075,164	30.1	12.1	11.8	6.2	13.9	51.8
6	Trade/hotel/repair	3,574,762	41.3	9.8	25.9	5.6	17.7	45.7
61	Wholesale	806,914	17.3	4.9	8.1	4.3	14.3	31.6
62	Scrap/waste material	32,103	33.0	2.4	26.6	4.0	21.0	12.7
63	Agents	53,264	30.0	6.7	21.6	1.7	14.7	35.1
64/65	Retail	1,864,938	45.2	11.6	28.5	5.1	17.9	53.2
66	Hotels	654,727	58.0	12.6	36.9	8.5	20.4	50.7
67	Repair/consumer/goods	162,816	53.3	4.2	41.4	7.7	20.1	19.0
7	Transport/com'ication	1,320,243	13.9	7.0	4.6	2.3	9.6	26.8
71	Railways	206,831	5.2	3.9	0.0	1.3	8.4	12.1
72	Other land transport	371,753	23.0	4.1	15.9	3.0	9.0	13.8
73	Inland water	3,023	19.6	0.0	19.6	0.0	0.0	19.9
74	Sea	19,485	3.0	1.6	0.0	1.4	13.0	17.3
75	Air	45,128	4.8	4.1	0.0	0.7	8.7	30.9
76	Support services	36,197	12.7	10.5	0.0	2.2	11.1	24.1
77	Storage/travel agents	133,974	9.1	4.1	1.0	4.0	16.3	31.2
79	Communication	503,852	13.4	11.3	0.1	2.0	8.8	41.6
8	Finance/business services & real estate	1,710,055	24.7	9.3	10.3	5.1	12.4	49.0
81	Banking & finance	449,895	10.7	7.4	0.1	3.2	10.5	49.6
82	Insurance	175,494	14.4	8.4	3.9	2.1	12.2	60.1
83	Bus. services/real est	967,831	33.5	10.4	16.3	6.8	13.6	47.3
84/85	Renting & leasing	116,835	20.5	8.5	9.5	2.5	9.8	43.8
9	Services	6,470,104	28.6	15.1	5.9	7.6	13.1	61.1
9A	Domestic	291,429	67.5	64.6	0.6	2.3	11.1	95.4
9B	Diplomatic	16,296	19.1	4.1	2.5	12.5	1.8	35.8
91	Public administration	1,994,432	18.7	11.8	0.1	6.8	12.4	48.0
92	Sanitary	144,236	42.4	31.6	5.0	5.8	17.0	52.0
93	Education	1,419,624	21.5	11.7	1.4	8.4	10.5	63.6
94	R & D	107,160	16.4	7.1	0.7	8.6	9.9	34.7
95	Health	1,336,894	31.2	10.8	15.0	5.4	12.4	71.3
96	Social services	683,946	30.5	19.4	0.3	10.8	16.5	69.4
97	Recreational	239,573	48.7	10.9	22.2	15.6	20.5	44.2
98	Personal	236,514	62.6	10.7	40.7	11.2	25.0	67.8

Table 7 continued

NACE	Industry	Total Employed	Non-standard Total	Part Time	Self Emp.	Temp.	Youth	Women
Sweden								
01-98	Total	4,269,000	—	23.5	6.5	—	15.3	47.6
01-03	Agriculture	179,000	—	16.8	57.5	—	11.7	29.6
11-50	Industry	1,287,000	—	11.4	3.5	—	17.2	23.1
61-98	Services	2,802,000	—	29.5	4.6	—	14.7	60.0
6	Trade/hotel/repair	627,000	—	26.9e/	9.7	—	21.2	49.1
61	Wholesale	203,000	—	—	3.9	—	14.3	30.0
62	Scrap/waste material	—	—	26.8	—	—	—	—
63	Agents	—	—	—	—	—	—	—
64/65	Retail	305,000	—	—	11.5	—	22.3	62.0
66	Hotels	86,000	—	27.9	10.5	—	34.9	64.0
67	Repair/consumer/goods	33,000	—	—	27.3	—	18.2	9.1
7	Transport/com'ication	302,000	—	14.6	7.0	—	14.2	28.8
71	Railways	—	—	—	—	—	—	—
72	Other land transport	—	—	—	—	—	—	—
73	Inland water	—	—	—	—	—	—	—
74	Sea	197,000	—	—	10.7	—	13.7	20.3
75	Air	—	—	—	—	—	—	—
76	Support services	—	—	—	—	—	—	—
77	Storage/travel agents	—	—	—	—	—	—	—
79	Communication	105,000	—	—	0.0	—	15.2	44.8
8	Finance/business services & real estate	328,000	—	18.9	5.2	—	12.2	73.9
81	Banking & finance	62,000	—	—	0.0	—	14.5	61.3
82	Insurance	48,000	—	—	0.0	—	6.3	66.7
83	Bus. services/real est	217,000	—	—	7.8	—	12.9	35.9
84/85	Renting & leasing	—	—	—	—	—	—	—
9	Services	1,542,000	—	36.3	2.2	—	12.5	73.9
9A	Domestic	1,000	—	—	0.0	—	0.0	100.0
9B	Diplomatic	3,000	—	—	0.0	—	0.0	0.0
91	Public administration	204,000	—	—	0.0	—	7.8	47.5
92	Sanitary	32,000	—	—	9.4	—	21.9	46.9
93	Education	319,000	—	—	0.3	—	6.3	69.6
94	R & D	—	—	—	—	—	—	—
95	Health	447,000	—	—	0.9	—	15.0	84.1
96	Social services	414,000	—	—	0.2	—	14.7	85.3
97	Recreational	84,000	—	—	10.7	—	17.9	52.4
98	Personal	39,000	—	—	41.0	—	15.4	79.5

Table 7 continued

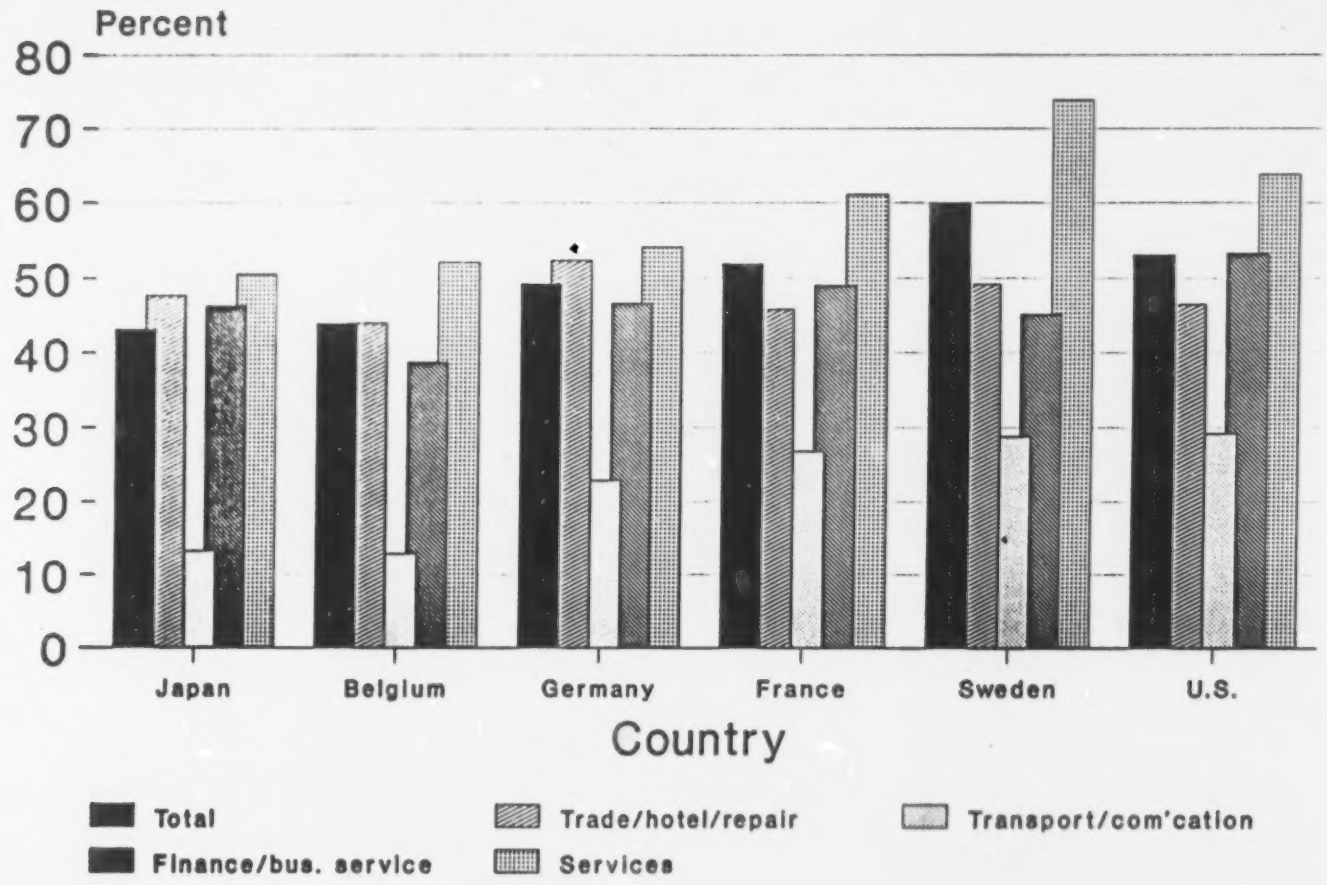
NACE	Industry	Total Employed	Non-standard Total	Non-standard Part Time	Non-standard Self Emp.	Non-standard Temp.	Youth	Women
United States								
01-98	Total	110,331,000	—	19.4	11.5	—	19.0	44.5
01-03	Agriculture	3,415,000	—	23.1	52.6	—	21.3	20.4
11-50	Industry	30,442,000	—	8.2	8.3	—	14.6	25.5
61-98	Services	76,474,000	—	23.7	11.0	—	20.6	53.1
6	Trade/hotel/repair	26,136,000	—	30.0	14.7	—	31.4	46.4
61	Wholesale	4,292,000	—	10.0	12.8	—	14.8	29.0
62	Scrap/waste material	137,000	—	16.8	24.3	—	18.6	17.0
63	Agents	—	—	—	—	—	—	—
64/65	Retail	13,176,000	—	31.8	13.9	—	31.9	49.7
66	Hotels	6,950,000	—	42.3	11.2	—	43.9	59.4
67	Repair/consumer/goods	1,582,000	—	16.2	41.5	—	18.6	11.0
7	Transport/com'ication	6,207,000	—	10.6	6.8	—	10.8	29.2
71	Railways	382,000	—	3.2	0.0	—	2.0	7.4
72	Other land transport	2,217,000	—	15.4	14.6	—	13.0	16.7
73	Inland water	200,000	—	14.4	7.6	—	10.6	16.8
74	Sea	—	—	—	—	—	—	—
75	Air	583,000	—	13.7	1.7	—	11.9	34.7
76	Support services f/	310,000	—	16.9	12.7	—	17.0	53.2
77	Storage/travel agents g/	110,000	—	9.6	3.2	—	18.6	26.8
79	Communication	2,406,000	—	5.5	1.3	—	8.8	39.5
8	Finance/business services & real estate	14,026,000	—	15.1	16.2	—	17.0	53.2
81	Banking & finance	3,263,000	—	9.9	3.5	—	19.8	65.0
82	Insurance	2,210,000	—	9.1	9.8	—	16.1	59.8
83	Bus. services/real est	8,553,000	—	18.6	22.6	—	16.2	47.0
84/85	Renting & leasing	—	—	—	—	—	—	—
9	Services	30,105,000	—	24.9	6.2	—	14.9	63.8
9A	Domestic	1,455,000	—	69.1	0.5	—	40.7	83.3
9B	Diplomatic	871,000	—	3.7	0.0	—	8.3	37.9
91	Public administration	4,230,000	—	7.2	0.0	—	8.4	42.2
92	Sanitary	854,000	—	31.3	19.7	—	17.9	34.9
93	Education	8,275,000	—	24.9	1.2	—	11.8	66.0
94	R & D	142,000	—	10.3	3.5	—	11.4	36.6
95	Health	8,141,000	—	21.4	6.6	—	13.2	76.8
96	Social services	3,009,000	—	31.5	7.6	—	14.7	67.0
97	Recreational	1,411,000	—	37.6	15.8	—	31.0	41.9
98	Personal	1,717,000	—	35.4	35.0	—	21.3	70.2

Table 7 continued

Notes: a/ The base is those "at work."
b/ Excludes hotels but includes eating and drinking places.
c/ Excludes business services.
d/ Includes hotels and business services.
e/ Excludes repair (NACE 67).
f/ Includes travel agents.
g/ Excludes travel agents.
Youth = under 25 years of age.

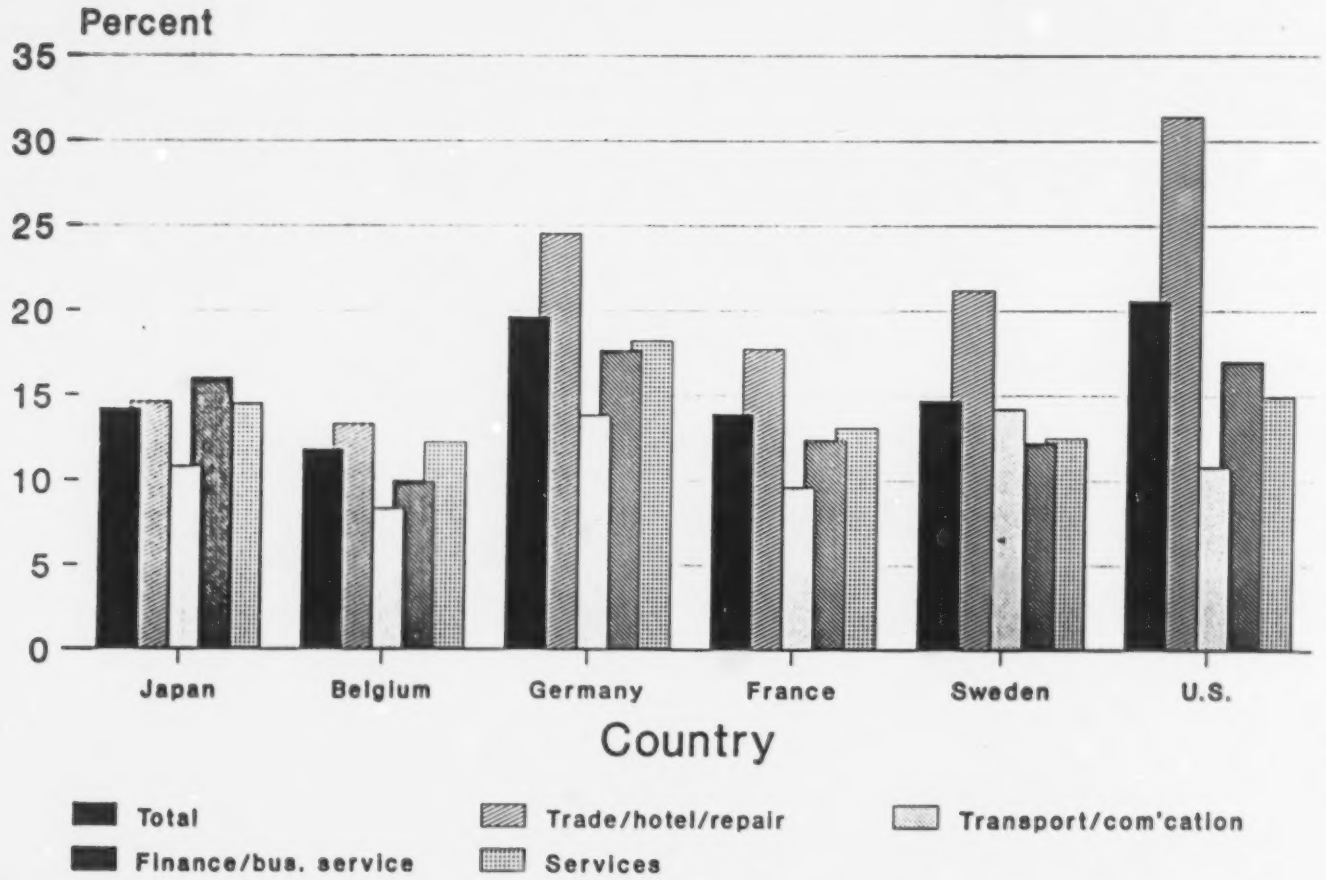
Sources: See table 4a.

CHART 14. Women's share of service-sector employment by industry, 1986



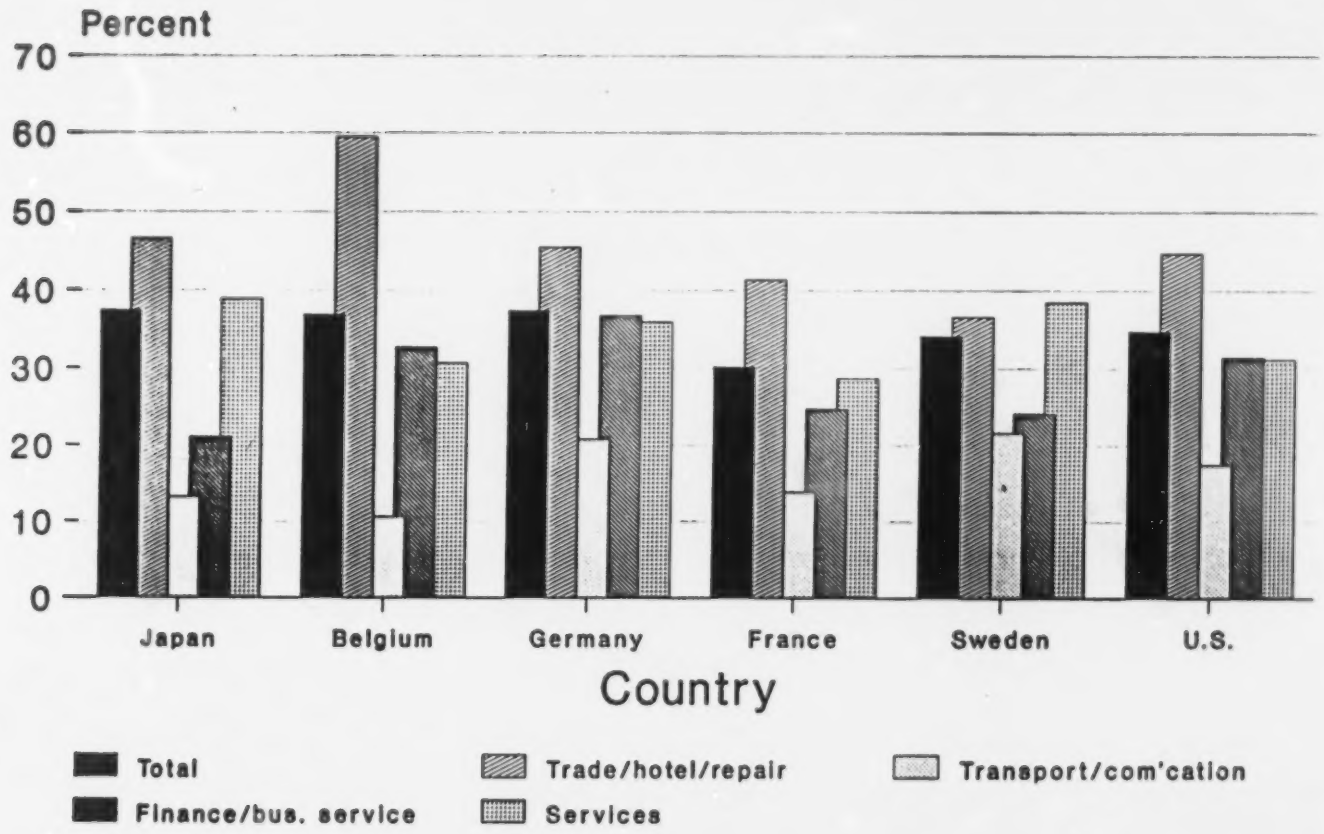
Source: Table 7.

CHART 15. Youth's share of service-sector employment by industry, 1986



Source: Table 7.

CHART 16. Percent of service-sector employment by industry and non-standard forms of work, 1986



Source; Table 7.

Table 8

Educational attainment of the employed by industry and country, 1987

I. Proportion of the employed having less than secondary level (A) of educational attainment by industry, 1987 a/ b/

ISIC	Industry c/	Country				
		Japan	Germany	Sweden	Yugoslavia d/	U.S.e/
1	Agriculture	65.9	50.6	67.5	67.5	32.9
2	Mining/quarrying	47.1	29.9	--	--	16.2
3	Manufacturing	32.1	26.9	50.1 f/	69.5 g/	20.6
4	Electric/gas/water	12.1	14.3	--	--	--
5	Construction	43.7	23.8	46.2	--	25.0
6	Trade/restaurants	23.4	23.7	52.7	62.7	21.6
7	Transport & communication	27.9	19.5	51.5	66.6	11.6 h/
8	Finance & business services	9.5	11.3	31.1	37.5	5.3
9	Services	17.2	16.3	35.5	31.7	11.9
	Other services	18.7			33.5	
	Public adm.	7.3			25.3	
	Total j/	29.2	22.5	44.1	58.9	16.4

II. Change in the relative proportion of the employed with less than secondary level (A) of educational attainment by industry k/

ISIC	Industry	Country				
		Japan 1974-87	Germany 1978-87	Sweden 1971-87	Yugoslavia 1976-86	U.S. 1972-87
1	Agriculture	-6.0	-5.1	-11.7	-6.4	-6.3
2	Mining/quarrying	-9.4	-1.6	--	--	-7.4
3	Manufacturing	-7.3	-2.8	-7.3	-6.8	-5.6
4	Electric/gas/water	-10.4	-1.8	--	--	--
5	Construction	-6.6	-1.9	-6.7	--	-5.6
6	Trade/restaurants	-6.6	-2.0	-6.8	-5.4	-4.3
7	Transport & communication	-6.6	-2.3	-5.6	-6.3	-7.6
8	Finance & business services	-6.3	-2.9	-5.6	-5.2	-5.8
9	Services	-6.8	-2.2	-5.0	-3.4	-5.5
	Total	-7.3	-2.9	-6.7	-5.0	-5.6

Table 8 continued

III. Proportion of employed with university/college level(E) educational attainment by industry, 1987

ISIC Industry	Country				
	Japan	Germany	Sweden	Yugoslavia	U.S.
1 Agriculture	1.1	0.7	2.1	6.6	10.3
2 Mining/quarrying	10.3	2.1	--	--	23.5
3 Manufacturing	11.7	2.7	4.9	3.4	18.1
4 Electric/gas/water	16.7	2.9	--	--	--
5 Construction	9.0	1.2	2.2	--	9.0
6 Trade/restaurants	12.7	2.2	4.8	4.3	12.9
7 Transport & communication	8.6	1.4	4.2	2.7	17.8
8 Finance & business services	27.1	8.4	17.4	14.8	29.6
9 Services	24.9	14.8	19.8	19.5	34.8
Other services	24.3			18.5	
Public adm.	29.0			23.3	
Total	14.5	6.3	11.1	7.5	23.4

IV. Change in the relative proportion of the employed with university/college level (E) educational attainment by industry 1/

ISIC Industry	Country				
	Japan 1974-87	Germany 1978-87	Sweden 1971-87	Yugoslavia 1976-86	U.S. 1972-87
1 Agriculture	4.0	9.9	7.2	3.4	7.5
2 Mining/quarrying	5.6	2.4	--	--	4.2
3 Manufacturing	3.7	6.9	6.7	4.1	5.8
4 Electric/gas/water	3.6	1.7	--	--	--
5 Construction	3.4	6.2	4.5	--	4.4
6 Trade/restaurants	3.2	5.2	6.2	5.6	4.4
7 Transport & communication	2.8	5.1	9.0	2.1	6.9
8 Finance & business services	4.0	3.1	5.3	3.1	3.7
9 Services	3.4	-0.3	2.9	2.9	2.4
Total	4.3	2.5	5.1	3.3	4.0

Table 8 continued

Notes:

a/ Statistics refer to the employed except in Sweden, where data refer to the whole labor force.

b/ The less-than-secondary (A) and university (E) levels of attainment are defined below and are not necessarily, closely comparable across countries because of differences in national educational systems.

Level A: Completed less than upper secondary education.
Level B: Completed upper secondary education.
Level D: Completed some post-secondary education, but not a university degree.
Level E: Completed at least one university/college degree.

c/ The industry classifications used by some countries do not correspond closely with the ISIC. In the United States business and repair services are included in approximate in ISIC 9; in Yugoslavia, repair services are included in ISIC 9.

d/ Data refer to 1986 are from the National Report.

e/ Data refer to 1988.

f/ Refers to ISIC 2-4 inclusive.

g/ Refers to the industrial sector as a whole.

h/ In the U.S., approximate ISIC 7 includes utilities (ISIC 4).

i/ Finance, insurance, real estate and business services; for Yugoslavia, public utilities are also included.

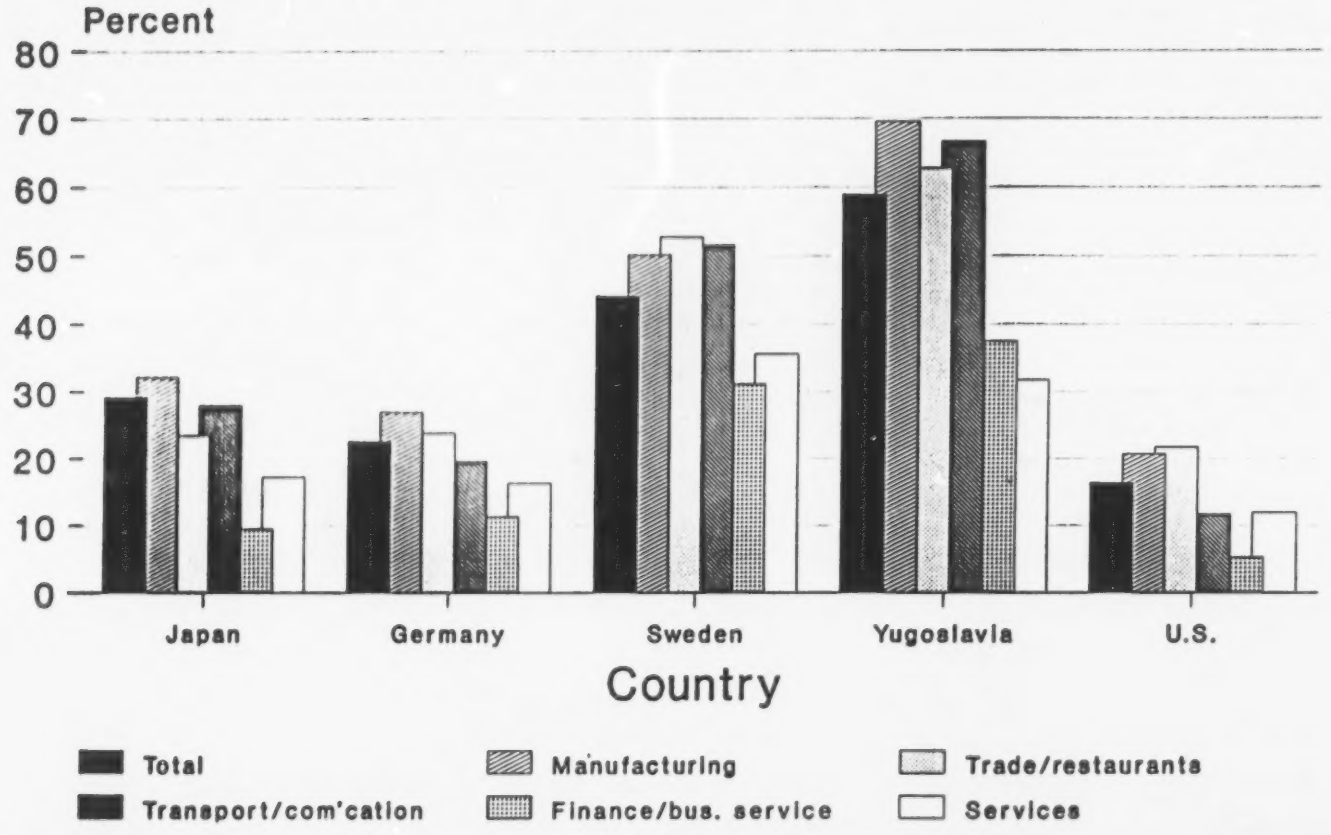
j/ Statistics for all industries may include individuals with industry attachment unreported.

k/ Earlier notes still apply. Percentage change per year relate to the ratio of those with level A to those with higher levels.

l/ Earlier notes still apply. Percentage change per year relate to the ratio of those with level E to those without.

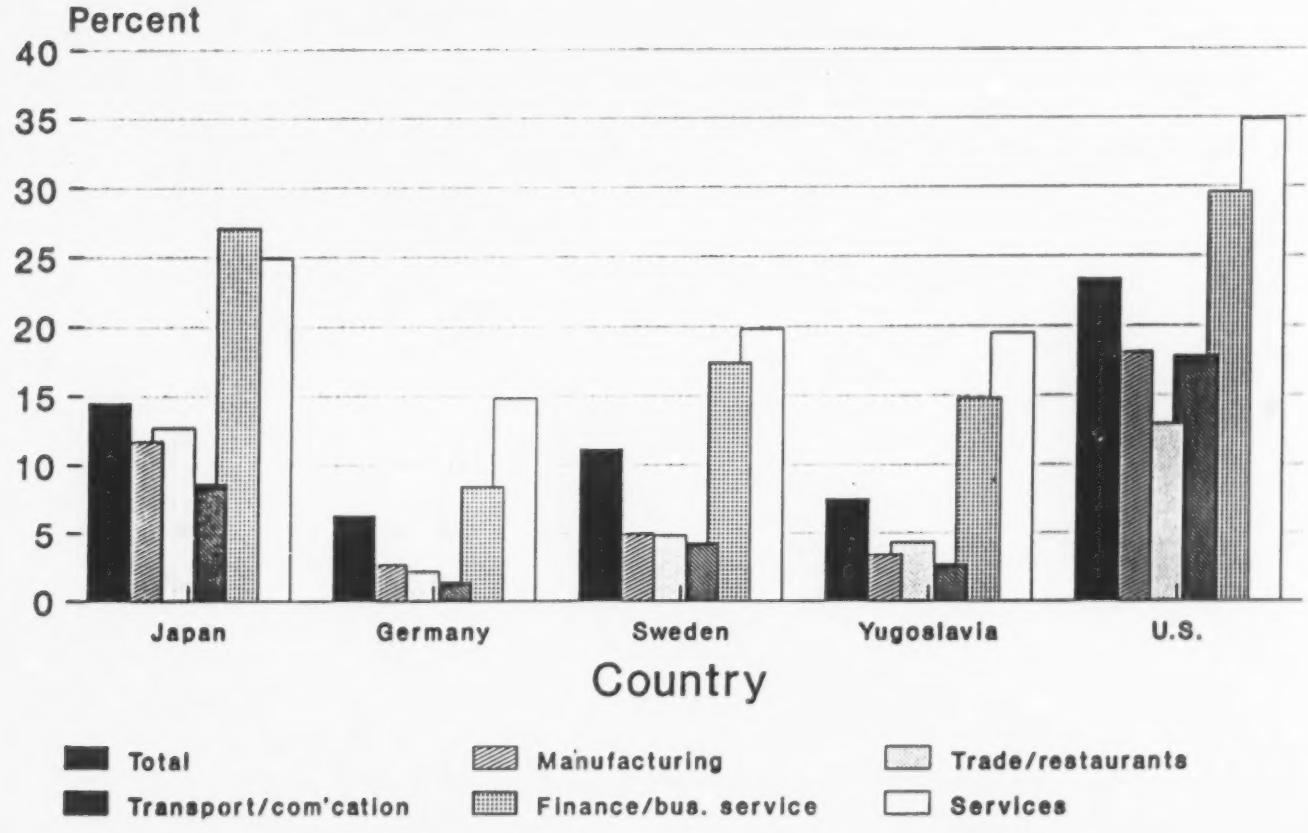
Source: Employment Outlook, 1989, Chapter 2. OECD, Paris, forthcoming; and the Yugoslavia National Report.

CHART 17. Percent employed with less than secondary level of educational attainment by industry, 1987



Source: Table 8.

CHART 18. Percent employed with university level of educational attainment by industry, 1987



Source: Table 8.

Table 9

The distribution of employment by firm size by industry and country (numbers in thousands)

Industry	Total Number	Percent distribution Number of employees 0-9	10-49	50-499	500 & over
Japan (1987)		(1-4)	(5-99)	(100-499)	
Total	44,280	8.1	41.3	15.4	23.4
Manufacturing	12,150	4.0	43.1	20.6	32.3
Services	25,140	9.6	40.1	15.5	23.0
Wholesale	3,670	7.6	50.9	19.0	22.1
Retail a/	4,430	16.5	46.5	14.9	21.4
Hotels/restaurants	1,350	26.7	56.3	8.9	8.1
Transport/communication	3,280	1.5	32.0	17.4	38.7
Finance, insurance & real estate	2,160	6.1	14.8	12.5	64.8
Services c/	10,080	8.6	39.2	15.6	11.5
France (12/86)					
Total	12,692	23.7	27.8	33.9	14.6
Services	6,984	31.2	31.1	29.8	7.9
Germany (1986)					
Total	20,730	16.6	20.7	33.4	29.4
Services	7,294	28.4	26.6	32.1	13.1
Wholesale	1,109	21.9	34.6	39.3	4.2
Retail	1,634	31.7	27.8	29.4	10.9
Hotels/restaurants	646	35.8	33.7	28.4	2.2
Transport/communication d/	651	20.1	29.3	29.0	21.5
Finance, insurance & real estate	823	8.0	18.9	40.2	32.9
Services	2,429	36.3	22.1	28.9	12.7
Sweden (1987)		(0-4)	(5-49)	(50-199)	(200 & over)
Total e/	—	15.5	21.3	9.8	45.8
Services	—	27.0	34.1	13.6	25.3
Wholesale	189	17.1	35.3	17.7	29.8
Retail	260	31.3	32.3	9.3	27.0
Hotels/restaurants	63	21.4	45.3	14.5	18.8
Transport/communication	108	29.0	35.1	14.6	21.3
Services	229	30.9	31.6	14.2	23.2

Table 9 continued

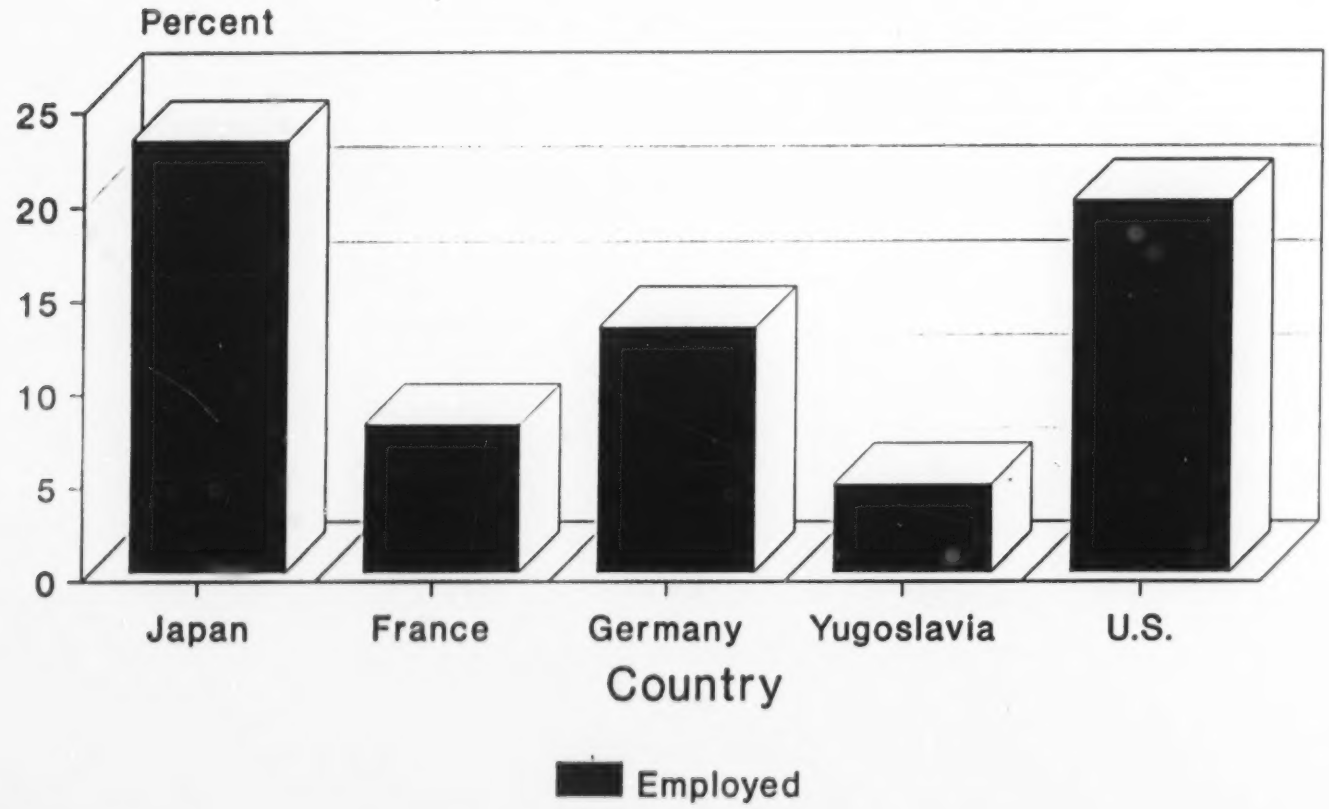
Industry	Total Number	Percent distribution: Number of employees 0-9	10-49	50-499	500 & over
Yugoslavia (1985)		(0-15)	(16-60)	(61-500)	(501 & over)
Total	—	9.6	23.6	58.8	8.0
Services	—	9.0	28.1	58.2	4.7
Wholesale	—	6.7	29.1	61.6	2.6
Retail	—	4.7	18.9	70.0	6.4
Hotels/restaurants	—	6.5	23.6	66.3	3.6
Transport	—	3.3	16.9	66.9	12.9
Communication	—	0.8	22.2	71.2	5.8
Finance & business services	—	17.0	27.8	51.7	3.5
Real estate	—	7.9	38.1	51.4	2.6
Services	—	18.1	46.2	34.8	0.9
United States (3/86)					
Total	80,291	14.2	24.6	37.5	23.6
Manufacturing	18,934	3.3	13.4	43.1	40.2
Services	52,941	16.8	27.1	36.3	19.8
Wholesale	5,686	19.6	39.2	34.7	6.5
Retail	9,741	18.4	26.6	36.3	19.8
Hotels/restaurants	6,992	10.3	35.2	42.5	12.1
Transport/communication	4,854	8.8	21.3	34.9	35.0
Finance, insurance & real estate	6,010	15.1	22.2	36.5	26.2
Services c/	19,658	19.5	22.6	34.9	23.0

Notes:

a/ 1986.
b/ 1986, excludes hotels.
c/ Includes hotels and business services.
d/ Excludes railways.
e/ Does not add to 100 percent because agriculture is excluded.

Sources: For the U.S., the data are from reporting units in the unemployment insurance (202) program; all other countries, the data are from the National Reports.

CHART 19. Percent employed in large service-sector firms (500 or more employees)



Source: Table 9.

Summary table of service-sector divisions and classes of NACE

6. DISTRIBUTIVE TRADES, HOTELS, CATERING, REPAIRS

- 61 Wholesale distribution (except dealing in scrap and waste materials)
- 62 Dealing in scrap and waste materials
- 63 Agents
- 64/65 Retail distribution
- 66 Hotels and catering
- 67 Repair of consumer goods and vehicles

7. TRANSPORT AND COMMUNICATION

- 71 Railways
- 72 Other land transport (urban transport, road transport etc.)
- 73 Inland water transport
- 74 Sea transport and coastal shipping
- 75 Air transport
- 76 Supporting services to transport
- 77 Travel agents, freight brokers and other agents facilitating the transport of passengers or goods; storage and warehousing
- 79 Communication

8. BANKING AND FINANCE, INSURANCE, BUSINESS SERVICES, RENTING

- 81 Banking and finance
- 82 Insurance except for compulsory social insurance
- 83 Activities auxiliary to banking and finance and insurance; real estate transactions (except letting of real estate by the owner), business services
- 84 Renting, leasing and hiring of movables
- 85 Letting of real estate by the owner

9. OTHER SERVICES

- 91 Public administration, national defence and compulsory social security
- 92 Sanitary services and administration of cemeteries
- 93 Education
- 94 Research and development
- 95 Medical and other health services; veterinary services
- 96 Other services provided to the general public
- 97 Recreational services and other cultural services
- 98 Personal services
- 99 Domestic services
- 00 Diplomatic representation, international organizations and allied armed forces